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ABSTRACT

This compilation of research completed in the areas of health, physical education, recreation, and dance during 1978 is divided into three sections. The first section is an index. Cross references are given for all the listings in the following two sections. References are arranged under subject headings, which are in alphabetical order. Section Two, a bibliography, is a listing of published research which cites articles published in the 166 periodicals reviewed by the publication. Section Three of the volume consists of masters and doctoral theses from institutions granting graduate degrees in the fields treated by the volume. Institutions are listed by state in alphabetical order. Most references are accompanied by abstracts of the research. All are presented in alaphabetical order according to the institution. The name of the institutional representative providing each abstract is indicated in parentheses after the name of the institution; major professors are cited in parentheses after each reference. (Author/LH)

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INTRODUCTION

This compilation lists research completed in the areas of health, physical education, recreation, and allied areas during 1978. It is arranged in three parts.

I. **Index.** In this section, cross references are given for all the listing in Parts II and III. References are arranged under the subject headings, which are in alphabetical order. Instructions for using the index are given at the top of page 1.

II. **Bibliography.** This is a listing of published research, citing articles published in the 166 periodicals reviewed by the Committee for *Completed Research*. The periodicals reviewed are listed in pages 315 through 317.

III. **Theses Abstracts.** These are master's and doctor's theses from institutions offering graduate programs in health, physical education, recreation, and allied areas. Institutions reporting are listed on pages 318 through 322. Most references are accompanied by abstracts of the research and all are numbered in alphabetical order according to the institution. Names of institutional representatives sending in theses abstracts are indicated in parentheses after the name of the institution; major professors are in parentheses after each reference.

Universities and colleges are encouraged to submit abstracts of theses completed at their institutions in the year 1979 for inclusion in the next issue of *Completed Research*. Material should be sent to Jerry R. Thomas, Chairman of Theses Abstracts.

Anne L. Rothstein
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Co-Chairpersons
Committee on Completed Research

PART I — INDEX

This index enables the reader to refer to the items of completed research listed in Parts II and III. Research topics are arranged in alphabetical order. The reference numbers following each topic correspond to the listings of completed research dealing with that topic. The capital letter B indicates a reference to be found in the Bibliography (Part II); the capital letter T indicates a reference to be found in the Theses Abstracts (Part III).

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PART III—THESES ABSTRACTS

ABBREVIATIONS APPEARING IN THIS PUBLICATION:

AAHPER = American Alliance for Health, Physical Education, and Recreation (abbreviate all familiar organizations, e.g., AAU, NCAA, etc.)
AD = Athletic Director
AE = Absolute Error (CE = Constant Error, VE = Variable Error)
ANCOVA = analysis of covariance
ANOVA = analysis of variance
BP = blood pressure
BTPS = body temp pressure saturated
C = centigrade
CA = chronological age
CO_2 = carbon dioxide
X^2 = chi square
o = degrees
DEPT = department
ELE = elementary
EKG = electrocardiogram
EMG = electromyogram
EMR = educable mentally retarded
exp = experiment or experimental
F = Farenheit
F = *F* ratio
FEV 1.0 or 2.0 = forced expiratory volume
gm = gram
GPA = grade point average
HE = health education, health
ht = height
HR = heart rate
IQ = intelligence quotient
JC = junior college
JHS(S) = junior high school(s)
kg = kilogram
kg/m = kilogram per meter
kpm/min = kilopondmeter per minute
KR = knowledge of results
max = maximum or maximal
measurements, units of*
MS = middle school
mm = millimeter
mph = miles per hour
msec = millisecond(s)
MT = movement time
no. = number (in text, e.g., the total no. of days . . .)

N = number (e.g., of Ss) all numbers in arabic form (e.g., 1 = one, 5 = five, 100 = one hundred)
N_2 = nitrogen
O_2 = oxygen
p = probability ($p < .05$ = significance greater than .05 level, $p > .01$ = nonsignificance at the .01 level)
PE = physical education
PR = pulse rate
PWC_{170} = physical work capacity, PWC (level of HR unspecified)
% = percent
psi = pounds per square inch
r = correlation
REC = recreation
RLV = residual lung volume
rpm = revolutions/min
RT = reaction time
SV = stroke volume
SD = standard deviation
SHS = senior high school(s)
STPD = standard temp pressure dry
S(s) = subjects; S's = subject's (possessive; fresh, soph, jr, sr)
t = t ratio
tests**
temp = temperature
TRT = total response time (RT + MT)
US = United States
USSR = Union of Soviet Socialist Republics
wt = weight
VO_2 = oxygen uptake
V_E = ventilation equivalent
$\overline{X}$ = mean
V_T = tidal volume
YMCA = Young Men's Christian Association
YMHA = Young Men's Hebrew Association
YWCA = Young Women's Christian Association

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*in. = inch; sec = second; wk = week; hr = hour; min = minute: mo = month; ml = milliliter; oz = ounce; yd = yard, etc.

**Abbreviate all kinds of performance tests if possible (e.g., CPI = California Psychological Inventory; Cattell 16 PF = Cattell 16 Personality Factor Questionnaire; MMPI = Minnesota Multiphasic Personality Inventory).

ABSTRACTS

BALL STATE UNIVERSITY (Cole)
MUNCIE, INDIANA

1. BENHAM, D. W. *Muscle glycogen depletion during isokenetic contractions.* M.A. in Physical Education, 1978, 67p. (D. L. Costill)

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7. BIRCKHEAD, Loretta M. *The effect of the nurse support system of nurses on the teaching of health education to patients.* Ed.D. in Movement, Health & Leisure, 1978, 158 p. (Carl E. Willgoose)

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14. RILEY, Barbara E. Examining the effects of movement-oriented programs on the social distance of multi-ethnic elementary school children. Ed.D. in Movement, Health & Leisure, 1978, 63 p. (John Cheffers)

BOWLING GREEN STATE UNIVERSITY (N. J. Bateman)
LIND CITY, KY

15. SANCKEN, Judith K. An investigation of selected factors associated with the basketball jump ball. M.Ed. in Physical Education, 1978, 134 p. (I. Temple)

The general purpose of the study was to explore selected factors related to performance in basketball jump ball situations. 3 common jumping techniques were analyzed and compared to determine which produced the greatest jump ht and what factors contributed the most to differences in performance. Ss were intercollegiate basketball players. Data consisted of 10 filmed jump ball performances of each S for each jumping method, a measure of visual perception of a moving object, and a measure of vertical jumping ability. Film analysis procedures were followed to first determine that diffs in the jumping methods did exist. A repeated measures ANOVA and Scheffe post hoc test were used. Additional analyses of the films focused on 7 factors related to elapsed time during phases of the jump, a factor related to degree of flexion of the lower extremities, and 3 angular velocity factors of the lower extremities. Visual perception and jumping ability factors were also analyzed. Conclusions were: a jumping method that involves tapping the ball with the outside hand should be discouraged; a pretask timing interval greater than the time of movement to the feet together position resulted in poorer performance; angular velocities of the lower extremity did not appear to contribute to significant differences in jump heights; there did not appear to be optimum angles of the lower extremity joints at the deepest point of flexion; jumping ability was significantly related to ht attained for each of the 3 jumping methods; and visual perception of an object moving in a vertical, predictable path was not affected by the starting position assumed.

BRIGHAM YOUNG UNIVERSITY (Don Shaw)
PROVO, UTAH

16. ARRHENIUS, Anders. Knee flexion and extension: The establishment and comparison of strength norms among college athletes. M.S. in Physical Education, 1978, 66 p. (L. J. Silvester)

Strength norms for knee flexion and extension among college students were established and compared. This study was conducted using 302 athletes from 9 diff sports at BYU. After thorough analysis of data the following conclusions were drawn: 1) there is a sig diff between the leg strength of athletes in diff sports at BYU; 2) the *r* between body wt and leg strength approximates .7; 3) athletes who have an opposition strength of 63% can be considered to have sound strength balance between flexion and extension movements.

17. BALTZER, Thomas. The effect of the winning-losing records of selected basketball teams on team cohesion. M.S. in Physical Education, 1978, 54 p. (P. Allsen)

The effect of winning-losing on team cohesion was determined. This study was conducted on the HS level, utilizing 4 3A, 1975-76 basketball teams from region 6 in the state of UT. The data obtained from the questionnaires were analyzed by means of ANOV. Within limitations of the study the following major conclusions are justified. Team cohesion is affected by the winning-losing record of basketball teams and losing causes the team members to change their feelings about and perception of the coach in a negative manner.

18. ASH, Virgil. An inventory of selected cross country ski resources for Utah. M.A. in Recreation Education, 1978, 120 p. (B. deHoyos)

Investigation was made to determine a graphic and written description of the resources which are utilized by cross country ski tourers. The time delimitation was 1974-1975. Users throughout the state who had skied the resource area were used to fill out the questionnaire developed to describe the resource. It was submitted to key federal, state, and user representatives for a critique on whether it addressed itself to vital needs of the skier and provided answers to planning problems. It was found that there were 107 sig used trails within 19 counties in UT. Some representation was present in all 8 of the multi-county planning districts. It was concluded that although UT offers exceptional resource potential for cross country skiing, planning and management for the sport and its resources is grossly inadequate.

19. BOYER, Allan C. A manual for conducting initiative activities. M.A. in Recreation Education, 1978, 106 p. (W. Hafen)

Expert judgement on how to conduct initiative activities and to develop a manual on conducting initiative activities based on that judgement was undertaken in this study. The material was obtained from 3 sources: experience the researcher had had, from literature, and from a questionnaire presented to the experts and others that have conducted initiative activities. Major findings included information on preferred group size, area for presenting the activities, working with mixed groups, how great a concern safety is with the instructors, and how the activities increase group participation. The activities were usually presented with a story, an easier one first, and initiative activities are being successfully related to other school Ss. It was concluded that safety was the greatest consideration, and that the activities should suit the abilities of the group. The instructor should take as great a part in the follow-up discussion as needed to insure a good discussion.

20. CALL, Douglas. A feasibility study of the recreation facilities: In the high Uinta primitive area. M.A. in Recreation Education, 1978, 92 p. (J. Naylor)

The facilities in the High Uinta Primitive Area were analyzed to establish whether they were adequate for the people who use them. A survey was conducted during the winter of 1977. Addresses were obtained from people who filled out registration cards during their visits to the Uintas in the months of June through Sept of 1977. Study showed that people wanted more fish, wildlife and signs and a significant percentage wanted less fire rings.

21. CAPUANO, Alfred. The development of an assessment guide: For elementary school physical education programs. Ed.D. in Physical Education, 1978, 128 p. (C. Rasmus)

An Assessment Guide for ELE school PE programs (K-6) was developed. 2 panels of experts from 21 states served as consultants in the construction and validation of the Assessment Guide. To test the validity of the instrument, 9 ELE schools in OH were evaluated. Schools with excellent and poor programs were selected. A t-test showed a sig diff between the mean scores of the 2 groups indicating the validity of the instrument. Reliability testing involved evaluation of 43 ELE schools in Utah County, UT. The principal and 1 classroom teacher evaluated their school's current PE program using the Assessment Guide. As a result of this procedure those items in the final Assessment Guide showed 70% or greater agreement between the principals and classroom teachers.

22. CARR, Larry. A comparison of a parcourse training program with a continual running and calisthenics program. M.S. in Physical Education, 1978, 69 p. (A. G. Fisher)

The physiological effects of 2 training programs were compared. 49 college-aged students 19-26 were evaluated on the following variables: max VO_2, Cooper's 1.5 mile run, muscular endurance, flexibility, strength, and body composition. Ss were randomly assigned to a control, continual running, and calisthenics or a parcourse training group. After 10 wks of training, 3 days per wk, results indicated no sig changes in the 3 groups for muscular strength and endurance, and body composition. Sig improvements were made by both training groups over the control group for the 1.5 mile run. The continual running group made sig improvements over the parcourse group in max VO_2 while the parcourse improved sig over the control. The parcourse group also made sig gains in flexibility. It was concluded that a program of continual jogging will bring about better cardiovascular results while better flexibility gains may be obtained in a parcourse training program.

23. CHANEY, Karen M. Community education: The influence of sociocultural characteristics upon participation. M.A. in Recreation Education, 1978, 74 p. (J. Naylor)

The effect was determined of the cultural and social characteristics of a community upon participation in a community education program, using Wasatch County, UT, a predominantly L.D.S. area, as a case study. Selected sociocultural factors were included in a 10 question survey administered to 2 sample groups (N=100). The findings indicated no sig relationshipsexisted between any 2 of the factors considered, but displayed a high level of sig ($p \leq .05$) in the combined relationship of age of respondent and time at location, and participation in senior citizen activities and participation in a community education class or program.

24. CLOWARD, Melvyn Douglas. Adventure education and self-concept changes in elementary school children following participation in Project Life. M.A. in Recreation Education, 1978, 64 p. (W. Hafen)

The effect of the Adventure Education program, Project LIFE, on the self-concept of elementary school children was determined. It was hypothesized that there would be a sig positive growth in self-concept for the children resulting from the program. Further, it was hypothesized that the change in self-concept would be greater for girls than it was for boys. The major findings did not reach sig using ANOVA for the overall group socres, however, the changes for girls from pre to post was sig less than the change for boys from pre to post.

25. CLARK, James Hoyt. Effects of diurnal glycogen fluctuation on endurance. M.S. in Physical Education, 1978, 59 p. (R. Conlee)

The influence of diurnal variations of muscle and liver glycogen stores on exercise endurance in male albino rats was determined. Animals were swum to exhaustion at either 0700h or 1900h, after which samples of soleus, white vastus lateralis, and red vastum lateralis muscles as well as liver were excised and subsequently analyzed for glycogen content. Glycogen content of all tisues from control animals was higher in the morning than in the evening. Consequently, animals at 0700h swam longer than those at 1900h (229± 20 min to 130± 23 min, respectively). Since the skeletal tissues of the exhausted animals were not totally depleted of glycogen, it is concluded that fatigue under the swim protocol was the result of hypoglycemin secondary to hepatic glycogen depletion.

26. CLUTCH, David. Plyometric and heavy bench squat training: The effect on leg strength and vertical jump. M.S. in Physical Education, 1978, 57 p. (C. McGown)
The effectiveness of plyometric exercises combined with heavy bench squat training exercises in the development of leg strength and vertical jump was compared. 12 male university-level students enrolled in a beginning weight training class trained twice a wk for 4 wks with each of the 3 diff treatment programs: vertical jumps, .30m depth jumps, and .75m and 1.10m depth jumps. The training prescription immediately following each treatment was bench squats performed in sets of 3, 4 to 6 reps, using a minimum of 80% of each Ss 1 rep max. A Latin square change-over design allowed each S to serve as his experimental control in the statistical analysis, and extimate the carry-over effect from each treatment. The experimental procedures did produce sig gains in leg strength and vertical jump ($p \angle .01$), but the treatment programs did not differentially affect leg strength or vertical jump development.

BRIGHAM YOUNG UNIVERSITY (P. E. Allsen)
PROVO, UTAH

27. CICCOLELLA, M. E. Differences in aggression of male and female athletes. Ed.D. in Physical Education, 1978, 95 p. (P. E. Allsen)
Ss for this study included male and female undergraduates at Alma College and BYU who participated in varsity athletics in basketball, softball (baseball for men), tennis, and swimming during the 1977-78 academic calendar year (n = 253). The study employed MMPI as the measuring instrument. The scales of the MMPI selected to determine aggression were 2 (depression), 3 (hysteria), 4 (psychopathic deviancy), 5 (masculinity-femininity), and 9 (hypomania). The statistical analysis included ANOV of the 5 selected MMPI scales and an inspection of group mean profiles. As a result of this study, the following findings were made: 1. ANOVA for combined male-female diffs for the 5 selected MMPI scales indicated sig ($p \leq .05$) for scale 4 (Pd) and scale 5 (Mf). Overall male athletes had lower T-scores on scale 4 (Pd) and higher T-scores on scale 5 (Mf) when compared to female athletes. 2. ANOVA for the overall sport-gender interaction indicated sig ($p \leq .05$) for scale 5 (Mf). The interaction effect demonstrated that, a) the diff between male and female means was greater in individual sports (tennis and swimming) than it was in team sports (basketball and softball/baseball), and b) male-female diffs were greater for non-athletes than

for athletes. 3. The null hypothesis for no diffs between male varsity athletes compared with female varsity athletes was not accepted, thus concluding that female varsity athletes were more aggressive than male varsity athletes.

28. EDWARDS, R. LaVell. Football recruiting: A comparison of the Brigham Young University recruiting program with a standard established from schools of the College Football Association. Ed.D. in Physical Education, 1978, 90 p. (B. Jarman)

A standard of college football recruitment at utilized by members of the College Football Association (CFA) was developed and it was determined if any diffs existed between that standard and the BYU recruitment program. In order to accomplish this, a systematic procedure, the Discrepancy Evaluation Model, was employed. This procedure involves the use of 4 stages: design, evaluation, process, and product. From the results of the study, a national standard of football recruiting was generated which allowed for the definition of the program at BYU, and identified 6 sig diffs between the national standard and the BYU recruitment program. The hypothesis under investigation was rejected for those 6 components.

29. EGGERT, Sandra R. Coaching success in women's athletics: The relationship of selected factors in preparation of coaches. Ed.D. in Physical Education, 1978, 65 p. (J. Harrison)

The professional preparation of coaches of women's intercollegiate athletic teams affiliated with AIAW in relation to their win/loss record for the 1976-77 school year was analyzed. A questionnaire was constructed and mailed to head coaches of 6 selected sports in the 9 regions of the AIAW. The analysis was based on a return of 178 (64%). 8 factors were analyzed, namely: enrollment of schools, sex distribution of coaches, age of coaches, degrees earned by coaches, college major of coaches, participation in athletics, yrs of coaching experience, and % of win/loss record. On the basis of this analysis, it was concluded that those coaches who did not have a major in PE and those coaches with the greater no. of yrs of coaching experience were the most successful in terms of the win/loss record ($p \leq .01$, .05 respectively).

30. FAIRBANKS, J. George. A submaximal walking test: Prediction of max VO_2 and physical fitness in adult

males. Ph.D. in Physical Education, 1978, 62 p. (A. G. Fisher)

There has been a rapid increase in the no. of Americans participating in physical training. Several exercise tests exist which assess physical fitness but they may have serious limitations for many adults. The purpose was to develop a walking test for the prediction of max VO_2 and physical fitness that can be self-administered and is safe for all adults. The study included 60 males between the ages of 24 and 42. The Ss were given a treadmill stress test to determine max VO_2 and anthropometric measurements were recorded for each S. The walking test consisted of walking briskly at a rate between 4.26 and 4.55 mph for 5 min and then taking the radial PR in the 0-10 sec period of recovery. Multiple regression equations for the prediction of max VO_2 were developed using the variables % body fat, wt, exercise HR, recovery HR and resting HR. The standard errors of estimation of the regression equations were well within the acceptable range for submax exercise tests.

31. FERIS, Charles G. Student evaluations of the Fitness for Life program. Ed.D. in Physical Education, 1978, 131 p. (P. Allsen)

A questionnaire that would determine the extended effects of the Fitness for Life program was developed and applied. For this study 380 Ss were randomly selected from the estimated 15,000 students who had completed the Fitness for Life program at BYU. A questionnaire was constructed using the Fitness for Life objectives as formal criteria. Of the sample, 270 Ss, 71.1% responded to the questionnaire. After the data were collected and analyzed, tables of descriptive statistics, frequency distributions, and cross tabulations were made. It was concluded the questionnaire proved reliable and valid and successfully determined positive changes in attitude and life style patterns as they related to the Fitness for Life program.

32. GIBSON, Kenneth D. Women's intercollegiate athletic administration: An analysis of the program in selected colleges and universities affiliated with the Association of Intercollegiate Athletics for Women. Ed.D. in Physical Education, 1978, 133 p. (E. Durrant)

Analyses of the administration of the women's intercollegiate athletic program in selected colleges affiliated with AIAW was undertaken. A questionnaire was prepared and mailed to the director of the women's intercollegiate athletic program in 121 selected colleges from across the nation. With a return of 92 (76%), an analysis was made on the basis of the 9 regions represented as well as whether they were large, small, public, or private. 15 administrative areas were analyzed. On the basis of this analysis, it was concluded that there was a diff in the administration of the women's intercollegiate athletic program in the small and large public and private colleges and among the 9 regions of the AIAW.

33. HOEGER, Werner W. K. Energy cost for men's gymnastics routines: Effects of training on these costs and some selected physical variables over a competitive gymnastics season. Ed.D. in Physical Education, 1978, 66 p. (A. G. Fisher)

Very little research has been conducted in the sport of gymnastics and the physical-physiological characteristics of these athletes. The purpose of this study was (1) to determine the caloric cost of the 6 Olympic events for men; (2) to determine the effects of a competitive season on selected physical variables (max VO_2, anaerobic power, strength, body density, and skill). The results indicated that floor exercise was the most costly event, followed by pommel horse, still rings, horizontal bar, parallel bars, and long horse vaulting in that order. No sig changes in caloric cost of the 6 events, nor in the selected physical variables were found over the season other than strength and skill, which improved. The data also indicated that highly trained gymnasts are extremely lean individuals with high levels of aerobic power and "average" aerobic power.

34. DUNCAN, Gail N. An analysis of a recreation program: A program for senior citizens in Cedar City, UT. M.A. in Recreation Education, 1978, 75 p. (W. Hafen)

The needs and desires of senior citizens in Cedar City, UT, toward their participation in REC activities and to determine the extent to which these senior citizens would participate in the said activities if given the opportunity was analyzed. Based on the findings, it was concluded that there was a lack of REC opportunities for senior citizens in Cedar City. It was also concluded that the senior citizens need an adequate community center to carry out REC activities. The findings of this study indicate that for the most part, senior citizens need, desire, and would participate in a variety of recreational activities if given the opportunity.

35. DUNHAM, Tom. An analysis of certain practices and procedures of intramural programs in selected western

universities. M.A. in Recreation Education, 1978, 67 p. (J. Naylor)

An analysis of practices and procedures on intramural programs in selected western universities was undertaken. The population consisted of a 100% return of intramural directors from 12 universities in the western states. The data obtained by a survey to determine: 1) the perceived effectiveness of separate men's and women's IM DEPTS and combined DEPTS; 2) how IM DEPTS are financed; 3) how IM DEPTS are staffed; and 4) the availability of facilities for IM. The data indicated that all IM DEPTS should be administered by one DEPT, a combined men's and women's. The IM director should have authority to hire his IM staff. The study also indicated the best time to schedule activities is from 4 p.m. to at least 10 p.m. The study did indicate that IM DEPTS need to involve more women in their activities.

36. KATSCHKE, Richard. Uphill running: Comparison of the oxygen costs of varying stride frequencies. M.S. in Physical Education, 1978, 36 p. (A. G. Fisher)

The effect of 3 diff stride frequencies on the O_2 cost of uphill running was investigated using 18 active male university students with above average aerobic capacities. The Ss were divided into 3 groups of 6. 1 group was tested at 2% grade, 1 at 4% grade; and 1 at 6% grade. The treadmill speed was 6 mph for all groups. 3 stride frequencies were used by each S: normal, 10% greater than normal, and 10% less than normal. O_2 costs were determined by indirect calorimetric techniques using Beckman gas analyzers. The O_2 cost of uphill running using a decreased stride frequency was sig higher ($p < .005$) than the normal or increased frequencies. There was no diff between the costs of normal and increased stride frequencies. These results indicate that it is more costly to run uphill with a decreased stride frequency.

37. KAWADA, Hiromichi Sano. Selected flexibility development programs: Their effects on beginning college gymnasts. M.S. in Physical Education, 1978, 67 p. (B. Jarman)

The effect of 5 selected flexibility programs on the development of shoulder and hip joint range of motion was investigated in 65 randomly selected male students at BYU who registered for P.E. 173, "Beginning Gymnastics," during the Winter Semester 1975. The 5 flexibility methods being investigated were: 1) static; 2) ballistic; 3) relaxation reflex; 4) the Sano method; and 5) the control group. 3 statistical analyses were used to test the data for sig. The first analysis was to see if any diff existed among the treatment groups in any of the dependent variables at the beginning of the experiment. The second analysis was to compare the effectiveness of the treatments in terms of improved flexibility. A third analysis was also concerned with a comparison of the treatment effects on each of the dependent variables. The null hypothesis stated that there would be no diff in the development of flexibility among the selected programs. A diff was found between the static flexibility group and dislocation with wand and shoulder angle.

38. KERBY, Lorna F. Extreme female augmenters and reducers: A determination of their characteristics. M.S. in Physical Education, 1978.

Extreme female augmenters and reducers were selected and compared on certain characteristics. 267 female Ss were tested to determine their level of augmentation and reduction. From this group 9 extreme augmenters and 10 extreme reducers were isolated and administered the CPI and a questionnaire. Findings indicated that: 1) augmenters require sig more sleep than reducers; 2) reducers scored sig higher in the socialization category of the CPI, indicating a sincere, modest, and conforming personality; 3) there was no sig diff between groups regarding hobbies, interests, activities, or somatic characteristics; and 4) there was no sig diff between groups on the CPI with the exception of the socialization variable.

39. MASUDA, Kinzo. Tennis backhand strokes: A comparative study between the two-handed backhand stroke and the one-handed backhand stroke for beginning tennis players. M.S. in Physical Education, 1978, 44 p. (J. R. Jones)

Determination of a diff in performance between the two-handed backhand stroke and the one-handed backhand stroke for men and women beginning tennis players was the objective of this study. 48 men and 41 women beginning tennis students were randomly assigned to either the 1-handed backhand group or the 2-handed backhand group. The 3 tests administered were the Modified Dyer Backboard Test, Backboard Volley Test, and the Lane Placement Test. Each of the 3 tests was administered to the 89 Ss at the beginning and at the end of the instructional period. By use of ANOVA, the following conclusions were made: 1) the 2-handed backhand stroke was just as effective as the 1-handed backhand stroke in teaching tennis students; 2) the men who used the 2-handed backhand stroke were able to handle the volley better than the women.

40. MAY, Barbara E. Effects of cardiovascular training on self-concept. M.S. in Physical Education, 1978, 48 p. (W. Cryer)

This study was developed to examine the effects of an 8-week cardiovascular development program on the self-concept of women 40-60 years old. For conditioning purposes, the first mo's activity consisted of walking, the second mo's activity consisted of alternating walking steps with jogging steps for a specified no. of min. HR was used to monitor the exercise intensity. The control group showed no sig gains in self-concept. The exp group had highly sig gains in self-concept. The mean HR of the exp group sig decreased, indicating that the program had a positive cardiovascular effect upon the exp Ss. The computed paired t-score indicated that the exp group made gains sig greater than the control group. The null hypothesis was rejected and the exp hypothesis was accepted.

41. MEHR, Walter S. Extramural sports: A fault tree analysis of the program at Brigham Young University. Ed.D. in Physical Education, 1978, 115 p. (E. Roundy)

Identification and recommendations were made for eliminating the possible strategic pathways to failure of the current implementation of the goal of the extramural sports program at BYU through a Fault Tree Analysis. Interviews conducted with persons associated with the extramural sports program resulted in the formulation of possible failure events. A fault tree was constructed and quantified. Strategic pathways to failure were identified. The prime strategic path was determined to be the failure to provide an adequate budget to support various sports within the program. This was reflected by a lack of strong leadership and program coordination, lack of role definition as related to the administration of women's athletics, and, ultimately, the lack of administrative separation of the women's athletic program, extramural sports program, and PE dept. Other strategic paths focused on administrative support and program leadership.

42. MUNTZING, Ull. Strength training: One set to failure and one set to failure plus two repetitions compared to an orthodox weight training program. M.S. in Physical Education, 1978, 59 p. (L. J. Silvester)

The effects of a single set to failure, to a single set which includes 2 post-failure reps to an orthodox wt training program on muscular strength, power, and hypertrophy were compared. This study was conducted using 41 college age male students from 2 beginning wt training classes at BYU. After thorough analysis of data, the following conclusions were drawn: the 1 set to failure and the 1 set to failure plus 2 reps, and an orthodox wt training program are all non-sig diff when it comes to strength development.

43. RANDALL, William M. Hydrocortisone acetate: The effect on the maximal load capacity of the tendo achillis in the adult male rat. M.S. in Physical Education, 1978, 101 p. (R. Francis)

144 retired male breeder albino rats of the Holtsman strain were used to evaluate the effect of hydrocortisone acetate injections on the Achilles tendon as measured by separation strength. A 3 factorial crossed design was employed. The first factor was the type of injections (hydrocortisone, sodium chloride, and control). The second factor was the no. of 0.1 cc injections (1, 2, 3, or 4) administered at 2 wk intervals. The third factor was the no. of wks (2, 4, 6, or 8) following the last injection until the animal was sacrificed and the tendons were tested. 3 animals were randomly assigned to each of the 48 treatment combinations. The separation force instrument was designed by Charles W. Tipton and constructed by Gerald Walters and staff at the Univ. of IW Medical School, Iowa City, IW. Results indicated that the hydrocortisone acetate (MSD) injections did not influence the Achilles tendon or the wt of the adrenal gland but that the wt of the hydrocortisone animals was lower at the time of sacrifice.

44. NAVALTA, S. Wilfred. The sports and games of the Makahiki Festival: A history and a unit of instruction. Ed.D. in Physical Education, 1978, 346 p. (B. Jarman)

The history of the sports and games of the ancient Makahiki festival was written and a unit of instruction based on certain selected sports and games was developed. The history was written by collecting information from primary and secondary sources. Based upon the findings of a survey, there is limited competitive and REC participation of the games in the public schools and affiliated communities in Hawaii. The unit of instruction was developed by the writer evaluating each game, by soliciting the advisory's committee input and recommendations, and by requesting the ratings and recommendations of a panel of experts from Hawaii. A rating of 9.2 out of a possible 10 points was given to the unit after it was revised by the panel of experts.

45. PRICE, Gregory L. The analysis of attitudes toward an intramural program. Ed.D. in Physical Education, 1978, 100 p. (B. Jarman)

The attitudes of the campus community toward the intramural program at California State College, San Bernardino, was assessed and analyzed. The semantic differential technique was utilized as a research tool in assessing attitudes. The 7 subpopulations in the study were: administrators, participating faculty, nonparticipating faculty, participating male students, participating female students, nonparticipating male students, and nonparticipating female students. The students, faculty, and administrators indicated positive attitudes toward the IM program including the leadership of the program, the program content, and the facilities utilized by the program. Those who participated in the IM program expressed more positive attitudes toward the IM program than their counterparts who did not participate in the IM program.

46. SIENNA, Phillip A. Metabolic measurements associated with steady-state running: Effects of normal or high fat diets on highly trained male and female distance runners. Ed.D. in Physical Education, 1978, 108 p. (A. G. Fisher)

Very little research has been conducted concerning the way men and women metabolize energy substrates during long distance steady-state running. The purpose of this investigation was to determine if there is a diff in various metabolic measurements associated with steady-state running in highly trained male and female distance runners subjected to either a normal or low carbohydrate, high fat diet and to determine the % VO_2 for males and females during steady-state running. 4 male and 4 female highly trained distance runners from BYU served as Ss in the exp. Dependent variables analyzed were % of race pace, % of aerobic capacity, RQ, glucose, and lactate. There was no diff due to sex but a sig diff was found with diet in most of the variables tested.

47. STIGGINS, Charles F. Nautilus and free weight training program: A comparison of strength development at four angles in the range of motion. M.S. in Physical Education, 1978, 61 p. (L. J. Silvester)

The effectiveness of nautilus and free wt training programs in the development of elbow flexion strength at 4 angles in the range of motion was compared. 48 male students were assigned randomly to 4 groups. Group 1 trained with free wts 1 set to failure, group 2 trained with free wts 3 x 6 reps, group 3 trained with the Nautilus Omni Bicep Machine doing 1 set to failure, and group 4 trained with the Nautilus Omni Bicep Machine doing 3 x 6 reps. All groups worked at 80% of their 1 rep max throughout the 8 wk training period. After thorough data analysis the following conclusions were drawn: 1) all training techniques utilized in this study caused positive strength changes, 2) training with dumbbells was just as effective as training on the Nautilus Omni Bicep Machine, 3) 1 set to failure is just as effective in developing elbow flexion strength as 3 sets of 6 reps when exercising on the Nautilus Omni Bicep Machine or with free wts.

48. SWENSON, Eugene J., Jr. The effect of exercise intensity on the body composition of adult males. M.S. in Physical Education, 1978, 93 p. (R. Conlee)
The effect of exercise intensity on the body composition of adult males was investigated. 15 volunteers were assigned to either a control, low intensity exercise (540 kpm/min) or high intensity exercise (900 kpm/min) group. The exercise groups rode bicycle ergometers 45 min per day, 5 days per wk for 12 wks. All Ss were asked to continue their normal dietary intake pattern throughout the study. The ANCOVA indicated that both treatment groups lost a sig amount of fat with no sig change in LBM. Although both exercise groups lost a sig amount of fat, there was no sig diff between groups indicating that the fat loss was independent of the exercise intensity. This discrepancy appeared to be due to an increase in the daily caloric intake of the high intensity group.

49. ABRATH, Paul L., Jr. An instrument for evaluating K-6 physical education programs: Developed and standardized for use as an optical-scanning form. Ed.D. in Physical Education, 1978, 81 p. (R. Barker)
Development and standardization of a simplified instrument for evaluating K-6 PE programs in terms of student participation, behavior, and performance as weighted against current trends and validated principles was undertaken in this study. Curricular validity was rendered using a panel of 22 experts in the field. Data for estimating reliability and objectivity were obtained through the test-retest method, using 2 evaluators at each of 25 Washington state schools. Reliability and objectivity were established using the ANOVA and Pearson-product moment techniques respectively. Having rendered the instrument valid, reliable, and objective, it was designed into optical-scan form. A sample printout was also designed to illustrate the types of information available through computer-processing of data gathered utilizing the optical-scan approach to program evaluation.

50. URIE, Renae R. Attitudes of senior citizens toward recreational programs: A comparison of government

housing residents to urban community residents. M.A. in Recreation Education, 1978, 125 p. (B. deHoyos)

The attitudes of senior citizens in regard to how the REC program in which they can participate meets and satisfies their REC needs was determined and compared. The attitudes of senior citizens living in a federally sponsored senior citizen housing complex who participate in the complex's REC program is compared to the attitudes of senior citizens living within a community who participate in a municipal senior citizen center program. In comparing the 2 groups, the following diffs were found: 1) senior citizens residing in a community desired more social types of activities - dances, parties, etc., 2) health tends to be a greater factor in non-participation among residents of the community, 3) the residents of the housing complex appeared to be more aware of activities, 4) residents of the community were happier and less lonely.

51. WALTERS, Paul. A biographical narrative of Dr. Israel C. Heaton. M.A. in Recreation Education, 1978, 157 p. (C. Thorstenson)

A biographical narrative of Dr. Israel C. Heaton was written. Israel was born February 23, 1912, in Mocassin, AZ to Charlotte and Israel Hoyt Heaton. In 1913 the Heatons moved to Kanab, UT, where Israel C. Heaton graduated from HS in 1930 as one of 20 graduates. Israel then attended USU, first obtaining a Normal School Certificate in 3 years and then a bachelor's and Master's degree at the same university. He obtained a Doctor's degree from Indiana University in 1955. His first job was as an elementary school teacher. He later worked for USU in the PE DEPT. Israel came to BYU in 1957 to head the newly formed DEPT of REC Education. In 1968 Israel became Director of the Rocky Mountain Center for Community Education and served in that capacity until his retirement in 1977.

52. YOUNG, Karen S. Physical fitness of secondary school boys and girls: A comparison of two programs of physical education. Ed.D. in Physical Education, 1978, 111 p. (B. Jarman)

The effects of an exp program of PE were compared to the present curriculum of PE on the physical fitness of 213 boys and girls of the Kern HS District. Pre- and post-tests were administered for each S in the 1.5 mile run for aerobic endurance, the 440 yd run for anaerobic endurance, the sit-up and push-up test for strength, and the sit and reach test for flexibility. The comparison of means within each treatment were statistically analyzed by a correlated t-test; the comparison of means between treatments were statistically analyzed by an ANOVA. Results showed that there were no sig diffs between treatments for any of the 5 tests. The exp treatment sig increased strength and flexibility while the present curriculum of PE sig increased flexibility.

BROOKLYN COLLEGE (B. Pollack)
BROOKLYN, NEW YORK

53. D'AQUINO, Rae A. Study: The relationship between gender and the coronary prone personality. M.S. in Secondary Education, 1978, 60 p. (R. Friis)
This was a study of the relationship between gender and the coronary prone personality. The investigatory methods consisted of sampling, instrumentation, and data analysis. 93 heterogeneous Ss were given a self-administered, machine scored questionnaire. The procedures included frequency distribution of all variables, index construction, scoring of the A/B Activity Scale, Pearson , and a step-wise multiple regression analysis. The specific aims of the study were 3-fold: to investigate the similarities and diffs among men and women in a measure of the coronary prone personality, to study the reliability and validity of a self-administered measure, and to collect new data as a comparison of how other measures of risk of CHD, in combination with gender, relate to the A/B Activity Scale. The evidence of this study indicates the following: the coronary prone personality is not gender differentiated, the A/B Activity Scale is a valid and reliable measure of the coronary prone personality, and reliable measure of the coronary prone personality, and that CHD may be a result of a multiple of interacting psychosocial factors, i.e.: ethnicity (being white), having a sedentary occupation, indulging in high consumption of fats and sugars, and coming from a family of high socioeconomic status.

54. GOLDHIRSCH, Binnie R. Graduate students' knowledge and attitudes on transcendental meditation. M.S. in Education, 1978, 59 p. (D. Smith)
A questionnaire was given to 62 college graduate students to determine their knowledge of and attitudes toward transcendental meditation. The 2 groups used in this study were health education graduate majors and education graduate majors. The following variables had no sig association with the Ss knowledge and attitudes toward TM: the Ss graduate major, undergraduate major, age, yrs of teaching experience, the no. of graduate courses taken, religious preference, level

of religiousness, and exposure to TM. The following showed sig associations with knowledge but not with attitudes: present grade level being taught and age of the S. For the following variables, the correlation coefficients revealed a sig relationship: those who favored TM had greater knowledge than those who disapproved of TM, males had greater knowledge of TM than females, and Ss who teach high school had greater knowledge of TM than those who teach elementary school.

55. WEISSMAN, Glenda. The effects of television violence on the overt aggressive behavior of children. M.S. in Education, 1977, 58 p. (G. Leisman)
With the advent of television, young people have been exposed more extensively to a wider range of human behavior through television earlier than the previous generation. This study is concerned with the effects of television exposure on the overt aggressive behavior of children. Specifically, the influence that television violence has on the outward physical and verbal assertive responses that can lead to what society considers antisocial behavior was studied. A non-aggressive and aggressive cartoon with various elementary school viewers was used to indicate those Ss considered high television watchers. In a free play situation, it was concluded that the more a child is exposed to media violence, the more likely will be the tendency for the S to demonstrate a sig increase in his aggressive responses in certain situations.

CENTRAL MISSOURI STATE UNIVERSITY (M. Lyon)
WARRENSBURG, MISSOURI

56. GROVES, Larry W. The status of athletic training in the interscholastic athletic programs of Missouri secondary schools. Ed.S. in Physical Education, 1978, 93 p. (R. L. Van Dam)
Administrators of 132 MO SHSs responded to a questionnaire (66% return) concerning employment and potential employment of athletic trainers (ATs). Less than 10% currently had an AT and 70% expressed no interest in employing 1. The supervising coach was responsible for the prevention and care of injuries in 94% of the SHSs. The most common preparation for this responsibility was a first aid course (70%) and/or a collegiate AT course (43%). 64% listed lack of available funds as the reason for not employing an AT, but 33% saw no apparent need.

57. TOLER, Charles T. A comparison of response times between two methods of running backwards. Ed.S. in

Physical Education, 1978, 36 p. (A. Martin)
The response time of athletes (N=10) and non-athletes (N=14) was determined using the back-pedal and crossover step methods of running backwards at distances of 5 and 15 yds. Using ANOVA the crossover method was found to be superior ($p < .05$) for both groups and over both distances.

CHADRON STATE COLLEGE (T. Colgate)
CHADRON, NE

58. CAWIEZEL, Selen L. An investigation of the effect of the physical biorhythm on skill performance. M.S. in Education, 1977, 43 p. (T. Colgate)
In investigation to determine the effect the physical biorhythm had on the physical skill performance of a selected skill, dart throwing was selected as a reliable test to measure skill performance. 30 Ss, 9 men and 21 women, were selected from the PE classes at Chadron State College. Ss selected for the investigation were those whose physical biorhythm points of concern occurred on a day when college was in session. Each S's 3 score total of 40 dart throws per day, on 3 different days, for each of the 4 points of concern was averaged and was considered the criterion measure for analysis. ANOVA was used to determine whether the mean scores of S's performing a selected skill at specific points on the physical biorhythm cycle differed sig from another. The following conclusions were drawn from this investigation: The dart throwing performance of a selected group of men and women was not ($p < .05$) affected by the high, low, crossing going up, or crossing going down points in their physical biorhythm cycle. The dart throwing performance of a selected group of women was not ($p < .05$) affected by the high, low, crossing going up, or crossing going down points in their physical biorhythm cycle. The dart throwing performance of a selected group of men was not ($p < .05$) affected by the high, low, crossing going up, or crossing going down points in their physical biorhythm cycle.

59. OSTROWSKI, JOHN T. The relationship between sociometric status and improvement in swimming ability of college males. 1978, M.S. in Education, 46 p. (T. Colgate)
This study was an attempt to determine whether there was a sig relationship between an individual's improvement in swimming ability and his sociometric status in a swimming class. 66 male S from 3 college beginning aquatics classes were given a battery of swimming tests and a sociometric questionnaire. Each S took the battery of swim tests and the sociometric

questionnaire twice, once at the beginning and once at the end of the semester to measure their improvement in swimming ability and any change in the sociometric status within each of the classes. The analysis of the data indicated that all classes improved in their swimming ability(p .05). Only one class had a (p .05 change in sociometric status but this change could not be attributed to any change in swimming ability. All 3 groups showed (p .05 relationships between improvement in swimming ability and final sociometric scores.

60. WINCHELL, Michael J. Health worries of high school seniors in Madison and Antelope Counties in Nebraska, 1977, 95 p. (T. Colgate)

This study was conducted to disclose the nature and severity of health worries of SHS seniors as related to sex, age, major worry areas, parents, family size, insurance coverage, and occupation of parents. A 90-item health worries check list was administered to 473 high school seniors in 10 of 11 schools in Madison and Antelope counties in NE. After the check lists were tabulated a rank order listing of the health worries was formulated for the total group, the girls, and the boys. A comparison of general areas was made along with a comparison of diff by sex, age, insurance coverage, and parents. The Mann-Whitney "U" test was used to determine sig. The Kruskal-Wallis test was used to compute the diff by occupation and the no. of children in the family. The conclusions were: The top 5 worries listed in rank order were cancer, motor vehicle accidents, what I'll be like in 5 or 10 years, eye disorders and blindness, and death. The least worried about items were lack of appetite, effects of tea and coffee, practical selection of foods, importance of minerals, and effects of exercise. Mental was the most worried about area with 7 out of the top 25 worries being mental items. Nutrition was the least worried about area with 3 out of the last 5 items being nutrition items. At the (p .05) level girls worry sig more than boys. At the (p .05) level girls have more severe worries than do boys. There was not sig diff (p .05 in comparisons by age, insurance coverage, parents, occupation, and family size.

CLEVELAND STATE UNIVERSITY (S. Ziegler)
CLEVELAND, OHIO

61. ARKO, Judith A. The effects of weight training on selected physiological variables. Medicine in Physical Education, 1978, 51 p. (J. E. Klinzing)

To compare the results of weight training using mini-gym, nautilus, and universal equipment by pretesting and posttesting, this study used 21 university students on various motor performance and physiological parameters. The independent variable, type of weight training, was performed in a non-circuit fashion. The dependent variables comprising the pretests and posttests included: sit and reach, sit-ups, hand line walk test, standing long jump, agility run, bench step test, jump and reach, horizontal ladder hand walk, girth and skinfold measurements. Ss were grouped according to pretest results by computing a composite score for each individual. The scores were ranked and groups formed by a matching design. The actual weight training was conducted for 6 weeks, 3 times per week, with the 3 weight training groups performing equated exercises on their respective pieces of equipment. The projected hypothesis was that the isokinetic device applying both concentric and eccentric contractions (nautilus) during training would produce the most significant results. The F ratios for 10 of the variables produced no evidence that these observed diff exceeded chance. Only the universal group showed sig improvement over nautilus and mini-gym on 1 variable, the horizontal ladder hand walk.

62. LAMONT, Linda. Effects of training on echocardiographic dimensions and systolic time intervals in women swimmers. Medicine in Physical Education, 1978, 44 p. (J. E. Klinzing)

The extent to which the cardiac anatomy adapts to acute training periods has not been well investigated, nor has the electromechanical phases of systole in women swimmers. Therefore, this repeated measures designed study was undertaken to evaluate echocardiograms (ECHO) and systolic time intervals (STI), before and after, 13 weeks of interval swim training in women collegiate swimmers (N=11). Training consisted of 3 to 4 hours of interval swimming 5 days/wk. and was found to produce a sig conditioning effect as measured by a 500 yd freestyle swim for time preseason ($\overline{X}$=7:49.0 min.) and postseason ($\overline{X}$=6:30.4 min.), $p < .001$. The null hypothesis was rejected when ECHO's in the posttraining period revealed an increased left ventricular (LV) end diastolic dimension, $p < .05$; LV posterior wall thickness, $p < .05$; and LV mass, $p < .01$ with a concomitant decrease in LV posterior wall excursion, $p < .05$. Also, STI's revealed a lengthened left ventricular ejection time index (LVET), $p < .05$ and total electromechanical systole indez (Q-S2), $p < .01$.

COLORADO STATE UNIVERSITY (R. D. Clayton)
FORT COLLINS, COLORADO

63. BARNGROVER, Lynn L. *Using sociometry to determine successful volleyball teams*. Master of Education, 1978, 145 p. (E. Plese)

Sociometric patterns were used to compare the social structures of successful and nonsuccessful female college volleyball teams. The study involved 10 teams that participated in the 73-74 AIAW Intermountain Volleyball Tournament. 6 components of sociometry were investigated: status index, mutual choices, cliques, isolates and rejectees, cohesiveness, and perceptions of a player's ranking by the coach. It was hypothesized that successful teams did not differ in structure from non-successful teams. The major hypothesis was subdivided into 6 subhypotheses done for each of the 6 components studied. The instrument used was a sociometric questionnaire consisting of 16 criteria that was mailed to each of the teams involved. The reliability of the instrument was found to be rho = .869 and sig at the .05 level. Fischer's Exact Probability Test was used for all of the subhypotheses except for status index and perception of a player's ranking by the coach. No sig diff were found for any of these subhypotheses. The Pearson Product Moment Correlation was used for the status index. No sig diff were found. The Spearman Rank Correlation Coefficient was used to determine the r of the coach's ranking of a player to their actual status. No sig diff were found.

64. COWGILL, Nancy Z. *Tactile reaction time compared to deaf and normal*. Master of Education, 1978.

A deaf group of 35 male subjects was equally matched by sex and chronological age to a normal hearing group and tested for tactile reaction time. The null hypothesis was employed which indicated that no diff would be found between the 2 groups. Each s was individually administered a 5-trial practice test immediately followed by the 5-trial actual test, reaction time being measured by the Dekan Performance Analyzer. The mean reaction times of Group I and Group II were subjected to ANOVA and revealed a statistically sig diff favoring the deaf group. The null hypothesis was rejected ($p < .05$). Under the limitations of the study, the only diff between the groups was the ability to hear and related unique lifestyle of increased bombardment of stimuli on the remaining senses. Therefore, compensating for a lost sense by facilitating the remaining senses produced improved reaction time. The compensatory process could then be used in teaching contact movement activities in physical education and athletics emphasizing tactile stimulus-response could benefit by incorporating this into the training methods.

65. COWGILL, Scott. Nebraska physical fitness norms, grades 1-12. Colorado State University, 1978.
The purpose of this study was to develop norms for the Nebraska Physical Fitness Test for boys, girls, and boys and girls combined for grades 1-12. A sampling of 1% of the total student population based on geographical distribution and size classification of schools was used. The Nebraska Physical Fitness Test was administered to a sampling of 22 schools with 5 males and 5 females per grade level, first through twelfth participating. The results were then key punched on data cards and grouped according to sex and grade. This data was run through a computer programmed to determine range, frequency, median, mean, standard deviation, and percentiles for each event. These findings were then developed into a complete set of norms for the Nebraska Physical Fitness Test.

66. HAUFLER, Steven E. Survey of the family sports environment and attitudes toward recreation and AAU age-group swimming. Master of Education, 1978.
A major objective of this study was to examine the diff in the attitudes and the family sports environment of 11-12 year old swimmers, 69 of whom were members of highly competitive sport teams (AAU) and 53 of their peers who were involved in less demanding programs (Rec). AAU parents were found to have higher athletic aspirations for their child and also evaluated the positive and negative aspects of swimming differently than rec parents. Aside from the physical benefits, AAU parents viewed swimming as a training in discipline and as preparation for our competitive society, while rec parents more often valued the social aspects of belonging to a team. Negatively, AAU parents most often cited conflicts with other family activities, whereas rec parents most often mentioned the problems with their child's failure and disappointments. Swimmers revealed similar attitudes, except that AAU competitors had higher aspirations for their personal success in swimming and viewed the sport more seriously. Also, AAU swimmers were considerably less involved in non-sport activities and other sports. A sig discrepancy was discovered between the parents and swimmers in that the parents consistently underestimated the swimmers' self-proclaimed emotional effects of competition.

67. HUFFER, Cathy R. A comparison of two teaching styles on selected swimming strokes. Master of Education, 1977, 32 p. (R. D. Clayton)

2 selected swimming strokes (front crawl stroke and elementary back stroke) were taught to male and female students at Colorado State University. The Ss were selected from 2 of the university's swimming classes, 1 class randomly designated as the control group (traditional style) and the other as the exp group (reciprocal style). 20 sessions (14 days for instruction and 6 days for testing), 30 min in length, were used to complete the study. The comparisons for improvement within each group for the front crawl stroke, during all three test intervals (pre- to mid-, mid- to post-, and pre- to post-tests), showed sig improvement in both groups. Similar comparisons for the elementary back stroke indicated sig improvement during the 3 test intervals, in the exp group; while the results for the control group showed sig improvement between the pre- and mid-test interval and the pre- and post-test interval, but did not indicate sig improvement between the mid- and post-test interval. The comparisons of the group means of the 3 test intervals indicated no sig diff between the control and reciprocal groups for either the front crawl stroke or the elementary back stroke.

68. JACKSON, Janet S. Attitudes of selected Colorado coaches toward coaching certification. Master of Education, 1978.

This study determined the educational background of selected Colorado high school coaches as it pertains to athletics and coaching, and determined selected coaches' attitudes toward a possible specialized coaching certification in Colorado. A questionnaire was sent to female and male head coaches of 13 sports in 39 selected Colorado high schools. The analysis of the coaches' educational backgrounds indicated that many of the coaches had not completed courses in all 6 of the athletic related subject areas identified in this study. When the data concerning the attitudes of the coaches toward a special coaching certification were analyzed, the results indicated that they favored certification requirements for secondary coaches in Colorado.

69. JACOBS, Craig A. A survey of needs: A model for community recreation. Master of Education, 1978.

The purposes of this study were to survey the rec needs of Hastings and other Nebraska first class cities, to develop a recreational model with specific guidelines that would meet the needs of Hastings, and provide a different approach to rec administration. After analyzing the findings, it was concluded that the "Recreation Coordinator Model," with its guidelines and final recommendations, would best serve the rec needs of the citizens of Hastings, and would be the most economical way of initiating rec administration at the municipal level.

70. MILLER, John. Graduates' evaluations of physical education teachers training at Colorado State University. 1978.

This study evaluated the undergraduate physical education teacher training program at Colorado State University through the opinions of its graduates. In light of subsequent experience, graduates evaluated their professional preparation in terms of its quantity, quality, and utility to them as practicing teachers. The study was to identify those competencies which the graduates considered most relevant in their training and to determine how effectively these needs were satisfied by the existing program. Responses indicated that the most necessary and pertinent aspects of the graduates' theoretical preparation concerned elementary school program planning; disciplinary techniques; the anatomical, physiological, and biomechanical sciences; preparation for coaching; legal liability; first aid procedures; health education and some facets of organization and administration. The graduates' preparation in practical competencies was reasonably commensurate with the perceived requirements. Traditional team sports were most highly regarded, together with conditioning methods, specific individual or dual sports, and gymnastic activities. Certain competencies of an affective nature were considered to require increased attention. In particular, the personal poise, confidence, and leadership was deemed important, as was interaction with other faculty, administration, and the community. The findings of the study were commended to the physical education department for further consideration as possible guidelines for program reevaluation.

71. TAYLOR, Howard H., Jr. Effects of competition and subject's sex on performance of a movement time task. Master of Education, 1978.

The purpose of this study was to compare the effects of competition among males and females on the performance of a choice reaction time and movement time task. 80 college age males and females were divided into control and exp groups. Both the exp group (composed of 24 males and 24 females) and the control group (composed of 16 males and 16 females) took part in 4 blocks of trials, each consisting of 5 attempts. Blocks 2 and 3 performed by the exp group consisted of same-sex and opposite-sex competition. The ANOVA was used to determine sig ($p < .01$). Movement time diff were noted for reaction time. The number of errors involved in the exp group were greater than the control groups, with more errors made during same-sex competition. Opponent's sex on this reaction time task did not cause sig diff in performance.

72. ZETTERBERG, Kim L. Basic conditioning factors and their influence on skier performance. Master of Education, 1978.

To determine the effect of selected fitness measures on skier performance, 3 ski teams from the Rocky Mountain Intercollegiate Ski Association were evaluated on the Zetterberg ski test battery, and their ski performances for the 1976-77 seasons recorded for statistical comparison. The conditioning factors and anthropometric measures studied were percentages of body fat, height, weight, resting heart rate, resting blood pressure, static balance, hand and foot reaction times, general body muscular endurance, leg power, arm and shoulder girdle strength, leg strength, abdominal muscular endurance, agility, and cardiovascular endurance. Giant slalom skiers, slalom skiers, cross-country skiers, and nordic jumpers were all considered in the study, both male and female. Statistical analysis was performed by rank-difference $\underline{r}$ at the .05 level. Conclusions were drawn in the areas of physiological attribute of skiers vs college peers. Additionally, intra-team analysis of tests and ski season rankings found certain physical fitness measurements to sig influence skier performance. It was also found that the nordic jumper of greater height and/or weight in the study performed better than their peers.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY (B. Gutin)
NEW YORK, NEW YORK

73. INBAR, Omri. Acclimatization to dry and hot environment in young adults and children 8-10 years old. Ed.D. in Applied Physiology, 1978, 170 p. (B. Gutin)

74. LEVISON, Mitchell. A descriptive instrument to investigate teacher references to the task environment during the facilitation of perceptual-motor skills. Ed.D. in Curriculum and Teaching, 1978, 156 p. (W. G. Anderson.

75. MORGENEGG, Bruce. The pedagogical functions of physical education teachers. Ed.D. in Curriculum and Teaching, 1978, 141 p. (W. G. Anderson)

EAST CAROLINA UNIVERSITY (R. B. Gantt)
GREENVILLE, NC.

76. BLACKWELL, R. P. Time in air as a measure of vertical jumping ability. M.A., 1978, 44 p. (R. B. Gantt)
Male college Ss (n=47) executed vertical jumps utilizing both an arm-assisted (swinging the arms permitted) and an arm-restricted technique (non-dominant arm secured behind the back, other arm held above head). Each jump was simultaneously analyzed by 3 scoring methods: traditional chalkboard scoring, time-in-air recorded from a Dekan analyzer, and vertical displacement determined by cinematography. Time-in-air was converted to vertical displacement by a scale based on the formula $s=g/2\cdot(t/2)^2$. As expected, ANOVA indicated the arm-assisted jump technique was superior to the arm-restricted technique for each scoring method ($p < .01$). Vertical displacement was also sig diff when comparing scoring methods. Scheffe's followup technique indicated displacement determined by cinematography was superior to either chalkboard or time-in-air results ($p < .01$), and chalkboard scoring reported greater vertical displacement than time-in-air scoring ($p < .01$). Film analyses revealed many Ss failed to mark the chalkboard at the apex of the jump, and some extended the marking arm at an angle rather than a vertical position. Consequently, max vertical displacement is not revealed by chalkboard scoring. Also, time-in-air is an invalid scoring method because some vertical displacement occurs before the toes leave the Dekan pads to activate the timer.

77. CLEMENT, D. P. Effects of progressive relaxation on the vastus medialus of spastic cerebral palsy subjects as measured by electromyography. M.A., 1978, 36 p. (E. W. Schwarz)
Cerebral palsy residents (N=30) of a state institution for mentally retarded were randomly assigned to a control group, a color-task group that practiced crayon coloring activities, or a muscle-relaxation training group that practiced tensing and relaxing various muscles. The Ss (14 males, 16 females) ranged in CA from 12-37 and in IQ from mild to severe retardation. Training sessions of approximately 30 min were conducted daily for the exp groups for 4 wks, a total of 20 sessions. All instructions during training were provided by a tape recorder. Pre- and post-tests of electrical activity in

the vastus mdeialus were obtained by EMG. A dependent t indicated the muscle-relaxation training group was the only group to sig reduce electrical activity ($p < .05$). ANOVA comparison between groups was non-sig ($p < .05$).

78. FINCH, P. T. The effects of exercise upon delayed resting metabolic rates. M.A., 1978, 37 p. (R. B. (Gantt)

Resting (seated position) VO_2 for college male Ss (n=16) obtained at 2-, 4-, and 6-hr intervals following exercise was compared with VO_2 obtained at identical hrs on a non-exercise day. VO_2 was monitored for 8 min, averaged, and expressed as $ml/m^2/BSA$. The exercise session consisted of 5 bouts of treadmill running (5 mps, 5% grade) with 1-min rest intervals between bouts. Measurements were taken 1 wk apart, and a counterbalanced order was followed in testing. A dependent t revealed VO_2 was sig greater ($p < .01$) at 4 hrs following exercise than at a similar time on a non-exercise day. As compared to non-exercise days, higher mean VO_2 measurements observed at 2- and 6-hr intervals following exercise were non-sig ($p > .05$). This study agrees with previous findings of deVries that exercise may exert a delayed effect on metabolism, resulting in a larger caloric expenditure than that determined by VO_2 during exercise and immediate recovery.

79. LAMM, J. W. A comparison of basketball skills and laterality among junior high deaf boys. M.A., 1978, 33 p. (J. R. Grimsley)

Male Ss (n=30) between CA 13-16 enrolled at Eastern NC School for the Deaf were classified into a homolateral or contralateral group based on tests of hand, eye, and foot dominance. The exp group consisted of 15 varsity basketball players, and the control group was based on 15 Ss randomly selected from the school population. Both groups were pretested on the Johnson BB skill test and posttested after 6 wks of basketball practice by the exp group. ANOVA indicated that mean gain comparisons between the homolateral control group, homolateral exp group, contralateral control group, and contralateral exp group were non-sig ($p > .05$). This finding applied to separate analyses of each event on the Johnson test. Contralaterality does not appear to affect the acquisition of basketball skills by deaf boys.

80. TINGLE, D. L. A survey to determine the status of physical education programs in selected schools for the deaf in the United States. M.A., 1978, 78 p. (J. R. Grimsley)

Questionnaires were received from 30 deaf HSs (70% return) throughout the US concerning the status of PE with respect to background information, the PE program, staff qualifications, course content, and budget. A computer analysis of the data revealed a large range in enrollment (14-520), public financial support (26 of the 30 HSs), and state requirements in PE for 26 HSs. A special adapted curriculum was provided by 18 HSs. Only 13 provided advanced or elective PE courses. After-school free play or REC activities were provided by 28 HSs, and 85% of the staff were state certified. Separate PE budgets were provided by 43% of the HSs. Programs included a wide variety of activities. Only a small % of multiple handicapped students participated in PE. PE programs at HSs for the deaf appeared to be similar to programs at HSs for normal hearing students.

EAST STROUDSBURG STATE COLLEGE (M. S. Balducci)
EAST STROUDSBURG, PA

81a. ANDERSON, Ruth M. Differences in coronary heart disease risk factors between male myocardial infarction patients above and below the age of 40. M.S. in Physical Education, 1978, 102 p. (H. Weber)

Past retrospective-prospective studies on CHD have tended to consider all manifestations of the disease together. Investigators have been inclined toward considering only middle-aged males, ignoring those below 40 yrs. By doing this, diff in prevalence of the recognized risk factors between various ages and endpoints of heart disease may be hidden. This study's primary purpose was to determine if there were diff in CHD risk factors between male myocardial infarction patients above and below the age of 40. In addition, 2 matched age groups of normal male Ss from a heart evaluation program were compared to further evaluate diff in risk factors of young and old individuals. Statistically sig diff in serum triglyceride level and EKG findings between the two MI groups were found using MANOVA, and X^2 tests. There were no sig diff in the risk factors between the 2 normal groups. The MI groups diff sig from the normal groups for the risk factors, systolic blood pressure, serum cholesterol, serum triglyceride, blood glucose, smoking habit, EKG findings, and physical inactivity. This study's findings indicate that young male MI patients do not represent a population diff from male MI patients above the age of 40. Both MI groups in this study represent individuals with advanced CHD. Variables found to be sig diff between MI and normal Ss were contributing factors in the diff in CHD incidence of the 2 populations.

81b. FITZGERALD, Patricia I. A comparison of body density values derived from hydrostatic weighing and skinfold prediction equations in three groups of college women. M.S. in Physical Education, 1977, 155 p. (H. Weber)
To determine the accuracy of skinfold equations when used to predict body density of lean, normal, and obese college women, several sub-problems were investigated. They included: (A) The effect of submersion of RLV, ERV, FRC, and VC; (B) The effect of using actual and predicted RLV values in the determination of body density from underwater weighing; and (C) 13 skinfold measurements were taken on each individual who participated in the study. Those data underwent a stepwise linear multiple regression analysis for computation of prediction equations for each of the three groups. ANOVA and a Scheffe post hoc test revealed a statistically sig diff at the 0.05 level in Group I between each of the skinfold predicted body density values and the actual value determined by underwater weighing. There was a statistically sig diff found in Group IV between density values predicted by Sloan's equation compared with density determined by hydrostatic weighing; this diff was also found in Group IV between the predicted density value of Wilmore and Behnke's equation and the actual value determined by underwater weighing. A student t-test revealed a sig decrease in the means of VC, ERV, and FRC when measured underwater. This diff occurred in all groups. Only in Group I was there a sig diff between mean values of RLV measured in air and underwater. ELV exhibited a mean gain of +224 ml underwater. One regression equation was chosen for each of the 3 groups of lean, normal, and obese college women. All of the equations chosen had a multiple R above 0.71. This study's findings indicate that caution should be used when applying prediction equations to populations which differ from the original sample studied. According to this investigation, actual and predicted measures of RLV may be used in the determination of body density from underwater weighing.

82a. NASH, Sandra L. The effect of Title IX legislation on intercollegiate athletic departments staffing in selected two-year colleges in Pennsylvania. M.Ed. in Health and Physical Education, 1977, 286 p. (L. Evans)
A survey instrument concerning the staff positions and personnel policies that existed in the intercollegiate athletic departments during the 1976-77 academic year, and the staff additions and/or deletions expected during the 1977-78 and 1978-79 academic years in order to comply with Title IX was sent to the athletic directors at 41 2-yr colleges in

Pennsylvania. 20 colleges responded, yielding a return of 48.78%. The items on the survey instrument elicited responses concerning the number of persons employed, workload, professional preparation, opportunities available, employment procedures, status, compensation, and the number of positions that colleges expected to add or delete in 1977-78 and 1978-79 in order to comply with Title IX legislation. The Ns and % for responses to all items on the survey instrument were summarized in Chapter IV. Reproductions of the 20 survey instruments comprising the final, analyzed sample were presented in the Appendix. Despite the fact that there were 29.14% more coaches employed in men's athletics than in women's athletics in 1976-77, the colleges were only expecting the number of coaches in women's athletics to increase 7.23% more than the number of coaches in men's athletics by 1978-79. Since 91.67% of the other athletic department personnel worked in both the men's and women's programs, no real inequities existed during the 1976-77 academic yr. None of the colleges seemed to consider staff deletions as a means of rectifying the inequities by the Title IX compliance deadline of July 21, 1978. Thus, although the data has shown that a positive increase in staff is expected, the increase is almost negligible. Therefore, it would appear that Title IX will have no sig effect on intercollegiate athletic department staffing in the sample 2 yr colleges in PA.

82b. SEDLOCK, Darlene A. Predictions of body density: A validation of four existing skinfold regression equations developed for college women. M.S. in Physical Education, 1978, 90 p. (H. Weber)

This study was designed to compare body densities derived from hydrostatic weighing with body densities predicted from 4 skinfold regression equations developed for lean, normal, and obese college women, and a combination of these 3 groups. A sub-problem of this investigation was to compare residual lung volume when measured in air and underwater. The body densities of 60 female volunteers were determined using the hydrostatic weighing technique with a direct underwater residual lung volume measurement. The Ss were then divided into groups according to their % body fat. 12 skinfold measurements were taken on each individual and body densities were predicted using the appropriate regression equation. ANOVA and a Scheffe post hoc test were computed on the data. The results showed a sig diff at the .05 level between actual and predicted body densities of the lean group. The actual and predicted body densities of the normal group were sig diff at the .05 level but the mean predicted body density was within the standard error of the estimate of this equation. There was no sig diff at the .05 level between the actual and predicted body density values for the obese group and the entire population. The results of the body density data do not convincingly support the thesis that the use of skinfold equations for predicting body fat in specific college-aged female groups are as accurate as the equations developed for this entire population. A student t-test revealed a sig decrease in the underwater residual lung volume measurement ($\underline{p} < .05$). This sig decrease supports the need for a direct underwater residual lung volume measurement when using the hydrostatic weighing method of determining body density when accuracy is required.

83. SHOESMITH, Jill L. An analysis of the procedures undertaken by Pennsylvania State Colleges to insure equal opportunity in athletics for women. M.S. in Physical Education, 1977, 113 p. (J. Felshin)

The data were collected through telephone interviews directed to 12 Pennsylvania State College Presidents, 13 Title IX Coordinators, and 13 Directors of Equal Opportunity in Sport (DEOS); yielding an 86% Presidential response factor and 93% response factor for the Coordinators and Directors. The procedures used by each College's hierarchy in assigning responsibilities to implement Title IX and DEOS varied according to the structural placement of the position. The Coordinator was a position of management and directly appointed by the Presidents in most cases. The DEOS was a faculty position whose appointment was frequently recommended by a "search and screen" committee. Insufficient funding was cited as the major problem for implementing Title IX and DEOS. Most of the Coordinators and Directors solicited help from others to complete reports or investigations. The Coordinators consulted with individuals involved with the situation. The Directors looked to administrators for assistance. The federal and state guidelines were considered functional and used by both positions to complete reports. The guidelines issued by the U.S. Department of Health, Education and Welfare clarified the Coordinators' role, but those issued by the PA Department of Education came too late to benefit many of the Directors. The state-wide meetings sponsored by the Pennsylvania Department of Education's Office of Equal Opportunity were viewed as more helpful by the Directors than the Coordinators. All the institutions had established grievance procedures, yet few formal grievances had been filed. Proglems were usually handled informally through discussion. The formal grievances dealt with inequities concerning faculty and staff. Students appeared to have limited input regarding the positions, which might explain the lack of grievances filed on their part.

84. SITLER, Michael R. Three vs. five days per week of isokinetic exercise. M.S. in Physical Education, 1977, 61 p. (A. Olson)

32 male and female Ss participated in an investigation to determine whether 3 or 5 days per wk of isokinetic strength training would result in ~~the~~ higher level of strength of the weakened quadricep and hamstring muscle groups of a previously injured knee. The training program consisted of 6 wks of isoketic flexion and extension knee exercises at a speed of 60° of motion per sec on the Orthotron. The Ss were randomly assigned to either a Daily, Alternate Day, or Control Group. Strength measurements were assessed by peak strength and torque force. Strength levels were measured at the beginning of the investigation, mid-point (3 wks), and at the conslusion (6 wks) on the CYBEX, which was also set at 60° of motion per second. Diff in peak strength and torque force values between the pre- to mid-point, mid-point to post, and the pre- to post-tests were analyzed statistically using ANOVA followed by the Scheffe procedure. It was concluded that both daily and alternate day isokinetic strength training will result in strength improvements of the muscles which extend the knee. A second conclusion is that although daily isokinetic strength training results in a greater increase in strength during the earlier stages of the training program, after 6 wks of training alternate day training is just as effective in the development of strength.

85. VOLL, Bonnie M. Predicting ability in basic modern dance skills through selected anthropometric and physical fitness measurements. M.S. in Physical Education, 1977, 33 p. (F. Sills)

The purpose of this problem was to determine if ability in basic modern dance skills could be predicted by means of selected anthropometric and physical fitness measurements. Data for this study were collected on 24 female students participating in 1 of 3 northeastern Pennsylvania colleges. Measurements of height, weight, sitting vertex height, left trochanterion height, left tibiale height, upper leg length, flexibility, abdominal strength, leg strength, cardiovascular fitness, and somatotyping were taken. These measurements and 6 anthropometric ratios were statistically treated by BMDO2R stepwise regression program developed by the Health Sciences Computing Facility, University of California at Los Angeles.

A regression equation with a multiple R of .8678 was presented by the author for the prediction of ability in basic modern dance skills and prediction tables for its computation were developed. This equation required the collection of 5 anthropometric measurements and 2 physical fitness tests. On the basis of the findings of this study, the author concluded that ability in basic modern dance skills can be predicted from selected anthropometric and physical fitness measurements.

86. YOST, Cecilia L. The comparison of manual resistance and isokinetic exercise programs in the development of quadriceps strength. M.S. in Physical Education, 1977, 34 p. (F. Sills)

Manual resistance and isokinetic exercise were compared in the development of quadriceps strength. The exercises were done 3 times a week for 6 weeks and the subjects performed 3 sets of 10 repetitions of the prescribed treatment for each leg. 32 women ss were divided into groups: 22 in the treatment groups and 10 in the control group. 11 Ss used their right legs and 11 their left legs in the treatment group that did manual resistance exercises. These same Ss used their opposite legs to comprise the treatment groups that did the isokinetic exercise. The Ss were pre-tested on the Cybex and peak torque and total work performed were measured on the readout obtained from the pen recorder. The post-test consisted of the same procedures after the 6 week program was completed. ANOVA was used to determine if the diff from pre to post-test was sig at the .05 level between the 3 groups; that is, the legs exercised manually, the legs exercised isokinetically, and the control legs. If a sig F-ratio was present, Scheffe's post hoc test was used to determine between which groups a diff was sig. Since it was found by the Scheffe post hoc test that the diff in total work scores between Groups B and C and Groups A and C were sig, it was evident that over the 6 wk training period the application of manual resistance and the isokinetic exercise did produce sig gains in the total amount of work. The Scheffe test showed that there was sig diff between the application of manual resistance and isokinetic exercise in the development of the total amount of work. There were no sig diff between the 3 groups in the ANOVA for the peak torque scores at the .05 level. The sub-problem analysis found that the manual resistance exercise created higher voltage over 10 maximal contractions of the quadriceps than did the isokinetic exercise, but the diff was found to be not sig at the .05 level.

EASTERN KENTUCKY UNIVERSITY (Harold Z. Holmes, Jr.)
RICHMOND, KENTUCKY

87. BAIRD, KITTY R. Women in physical education and sport at Centre College - 1854-1978. Ed. S. in Physical Education, 1978, 70 p. (P. Stanaland)
An investigation of primary sources shed light on the history of the physical education and sports program for women at Centre College from 1854-1978. Prior to 1901, the girls exercised daily with Swedish gymnastics or similar activities performed to improve health and to make the girls strong enough to engage in formal education. Competitive sports were introduced into the program during the period from 1901-1926. Sports were added to the physical education classes during that period, but not until several yrs after they had become a part of the extracurricular life of the students. The third period, 1926-1959, was the era of intramurals, play days, and carnivals. A movement toward equality in physical education characterized the period from 1959 to 1978. Intercollegiate competitive teams were important during that period. It was concluded that the women's program at Centre College always included physical education in the curriculum. A succession of qualified instructors implemented a program that appears to have kept pace with the national trends in physical education and sports for women, and throughout the yrs there has been a high level of interest in participation among the women.

88. FISHER, James W. Caloric cost of rope skipping. Ed.S. in Physical Education, 1978, 41 p. (H. Holmes)
14 male students, ages 18-28 years, jumped rope, after an appropriate warm-up, for 2 min while wearing a Kofranyi-Michaelis respirometer. Each S was tested on consecutive days, turning the rope at 95-105 rpm, and jumping on both feet. Expired gas was collected in metalized bags attached to the KM meter, then analyzed with a Gallenkamp-Lloyd gas analyzer. Caloric cost was estimated using Weir's formula. By using a 120 l Tissot tank to validate the KM meter a regression line was established to determine specific correction factors for expired gas volumes. With a $\bar{X}$ caloric expenditure of 8.7 kcal/min/65 kg, rope skipping was "heavy exercise" (7.5 kcal/min/65 kg or higher for men) according to the scale of Durnin and Passmore.

89. HAAG, Carolyn A. The effects of noise on the performance of a perceptual motor task by individuals

low and high in ergic tension. Ed.S. in Physical Education, 1978, 45 p. (G. Polvino)

Noise was found to result in physiological changes, increased HR ($p < .01$), but no performance decrement on a mirror tracing task. College Ss were selected on the basis of their scores on Factor Q_4, relaxed vs. tense, of the Cattell 16 PF questionnaire. Ss scoring in sten 4 and below and Ss scoring in sten 7 and above learned and then were tested on mirror tracing. Performance scores for 6 trials with gymnasium-type noise consisting of voices, people talking, hand clapping, running, and screaming were compared to 6 scores without the noise. The noise had no diff effect on the performance of either the high or the low Q_4's under any of the conditions.

90. KOZOL, Edward M. The effect of dynamic exercise and vertical jump training on vertical jump performance. Ed.S. in Physical Education, 1978, 38 p. (H. Holmes)

48 college age males were randomly assigned to a dynamic exercise group (n=15), a vertical jump group (n=17), and a control group (n=16) to study changes in vertical jumping ability over 8 weeks. The Sargent jump test was used after 3 periods of instruction and practice at the test. The dynamic exercise group increased VJ by 1.6 in ($p < .01$); the vertical jump group increased VJ by .4 in; and the control group decreased VJ by .7 in ($p < .05$). Performance changes observed in the exp groups were similar to those reported in previous studies.

91. PELLEGRINO, Jr., Salvatore J. The effects of a selected weight training program on strength and body composition of untrained college males. M.S. in Physical Education, 1978, 43 p. (H. Holmes)

28 Ss participated in a 10 week program. Group E (n=20) weight trained twice per week, 40 min per session. Group C (n=8) participated in a golf and bowling class. Strength, girth, and skinfold measures were made before and after the training period. Group E improved in all strength measures ($p < .01$), and increased 2 skinfolds and 3 girths. Group C increased 1 skinfold and 1 girth. There were no diff between groups in skinfold or girth measures. The present study did not provide support for previous studies which found improvements in body composition with weight training.

92. WIEDEMER, Leslie A. A personality study of female athletes in field hockey, volleyball, and basketball. Ed.S. in Physical Education, 1978, 52 p. (H. Holmes)

Personalities within and between groups of female athletes in

3 sports were investigated. Ss ranged from 18-22 yrs. All Ss were intercollegiate athletes in field hockey (n=19), volleyball (n=16), and basketball (n=11) for the 1977-78 season. The CPI was administered at the end of each team's season and ANOVA was calculated utilizing the raw scores from the 18 personality traits. Ratings were established by the head and assistant coaches and the ratings were used to determine if the athlete was in the high or low skill group. No sig diff were found between the 2 skill groups in the field hockey or volleyball teams. The highly skilled basketball players scored sig higher than the average skilled players in capacity for status, self-acceptance, and responsibility. No sig diff were found between the field hockey and the basketball teams. The field hockey team scored sig higher than the volleyball team in socialization. The basketball team scored sig higher than the volleyball team in responsibility. The null hypothesis was accepted (p .05) in all cases.

FLORIDA STATE UNIVERSITY (P. W. Everett)
TALLAHASSEE, FL

93. GERSON, Richard. The influence of cognitive motivational factors on the reproduction, learning, and performance of preselected and constrained movements. 3 studies were conducted as converging operations for the identification of those cognitive motivational variables that would affect the learning and performance of preselected and constrained movements. In exp 1, preselected movements were replicated with more accuracy and consistency than constrained movements. Additionally, preselected movements were learned with less error than constrained movements, but both movements were difficult to maintain in memory. In exp 2, causal perceptions relative to quantitative KR for preselected and constrained movements were examined. It was found that Ss who made preselected movements expected to perform better, learned with less error, and attributed their behavior more to internal and stable causes than Ss who made constrained movements. In exp 3, success and failure were manipulated for both preselected and constrained movements. The expectancy and attribution results replicated those of exp 2 in general. The effects of success and failure on causal perceptions were as predicted. Success led to higher expectancies and more internal and stable attributions while failure led to a lowering of expectancies and to external and unstable attributions. Additionally, the attributional patterns of Ss who made preselected movements differed from those of Ss who made constrained movements in the failure and random KR conditions,

but not in the success KR condition. Results were discussed in relation to previous findings reported in both the motor learning and verbal learning literature.

94. GROPPEL, Jack L. A kinematic analysis of the tennis one-handed and two-handed backhand drives of highly skilled female competitors. Ph.D. in Motor Learning, 1978, 146 p. (R. N. Singer)

The kinematic aspects of movement of the trunk and upper limb segments of the body preceeding impact and immediately following ball contact for the 1-handed and 2-handed backhand drives of highly-skilled female tennis players were quantified and compared. The following segmental motions were investigated via the use of high-speed cinematography: the linear displacements, velocities, and accelerations of selected body segments and the angular displacements, velocities, and accelerations occurring about the articulating joints. The Ss used in this exp were 36 highly-skilled female collegiate tennis players (18 of whom used a 1-handed backhand and 18 who used a 2-handed backhand) competing during 2 sanctioned tournaments at the FSU. Anthropometric data were collected and compared to assess reliability between groups. The results of this study suggested that the 2-handed backhand could be the preferred stroke when hitting a tennis ball while able to position one's body comfortably with respect to the ball. This conclusion was attributed to the more uniform body rotation observed for that stroke and also the lower wrist and elbow angular acceleration values.

95. HAGENBECK, Franklin L. Strategy utilization on the acquisition and retention of a serial motor task. M.S. in Motor Learning, 1978, 123 p. (R. N. Singer)

An equal no. of male Ss (n=75) were divided into 5 treatment groups (imagery, relevant labeling, irrelevant labeling, kinesthetic, and control) and were tested for accuracy on moving a lever on a curvilinear positioning apparatus to 6 serial positions at both 5 sec and 60 sec retention intervals. Strategies, positions, and retention intervals constituted the independent variables, with dependent measures of AE, CE, and VE. Each S completed 10 trials of the serial task. Ss in the imagery condition performed with less error at each position for both retention intervals and showed less forgetting than did Ss in the other 4 groups. Ss in the relevant labeling group were sig more accurate than the control group at position #4 for both retention intervals. The imagery, relevant labeling, and kinesthetic groups showed a bowed serial acquisition curve indicating a primacy and recency effect, while the irrelevant labeling and control groups showed a linear serial acquisition curve indicating only a primacy effect.

96. HAMLIN, Sally L. The effect of 90 minutes of treadmill running with and without fluid electrolyte concentration of trained female runners. M.S. Exercise Physiology, 1978. (D. P. Smith)

97. HAVRILUK, Rodney P. Temporal and kinematic effects of two visual cue systems on the grab start. Ph.D. in Exercise Physiology, 1978. (C. H. T. Ward)

98. JONES, Marjorie L. The influence of static strength and intramuscular occlusion on relative endurance in pre and postpubescent children. M.S. in Exercise Physiology, 1978, 67 p. (D. Smith)

99. MCKINLEY, William. The effect of an intermittent circuit weight training program on cardiovascular fitness. M.S. in Exercise Physiology, 1978, 99 p. (D. Smith)

The effect of an intermittent circuit weight training program on cardiovascular fitness was investigated in this study. A 2 x 2 factorial ANOVA, the 1st factor being exp and control groups, and the second factor comprised of pre and post testing, was used to analyze the data. Appropriate F step down procedures were used to analyze sig main effects. It was concluded that 8 wks of intermittent circuit wt training causes sig increases in strength, but appears to have limited effects upon max VO_2, and steady state HR during arm and leg work. Max VO_2 (1/min) during arm work was sig higher following training, however, when expressed as ml/kg/min the values for both the exp and control groups were essentially unchanged. Steady state HR for both control and exp groups were lower on the post test during both arm and leg work. The ANOVA revealed that during steady state arm work the groups were sig diff in the way they changed from pre to post test, however follow-up t tests indicated no sig between the 2 groups.

100. MONTILLA, Yvette. The caloric cost (exercise plus recovery) of running 1.25 miles at 60% and 80% of maximum heart rate in untrained males and females. M.S. in Exercise Physiology, 1978, 67 p. (D. Smith)

Ss were 12 male and 12 female college students. Ss ranged in age from 18 to 29 yrs and were physically active but not athletically trained. Average speed and caloric cost for the 60% intensity run for males was 5.5 ± .47 mph ($\bar{X}$ ± SD) and 1.97 ± .4 Kcal/Kg respectively. At 80%, males speed was 7.8 ± .9 mph and the caloric cost was 2.20 ± .3 Kcal/Kg. Females average speed at 60% was 4.4 ± .3 mph and at 80%, 5.8 ± .6 mph; their caloric expenditure at 60% was 1.41 ± .3Kcal/Kg and 1.93 ± .1 Kcal/Kg for the 80% MHRR run. The ANOVA revealed that at either intensity, males expended more calories than females for covering 1.25 M ($p < .05$) and that between the 2 intensities both sexes used sig more calories while running at a higher % of MHRR ($p < .05$). Data concluded that caloric expenditure is dependent on speed.

101. MURRAY, Mary Jo. Preferred cognitive mode and teaching methodology: Matching sequential and holistic information processing with part and whole methods in learning a novel motor skill. Ph.D. in Physical Education, 1978, 189 p. (B. J. Jones)

The rates of learning of 4 diff groups of 25 Ss were examined. Group 1 was sequential processors using the part method; group 2 was sequential processors using the whole method; group 3 was holistic processors using the part method; group 4 was holistic processors using the whole method. Ss in all groups practiced 5 min daily for a max of 20 sessions on a 3-ball juggling task. Learning time was total min taken to reach the success criterion of 20 consecutive juggles. A consistent lateral eye movement pattern was found for 80% of the Ss. Using an ANOVA on the learning times of the 4 designated groups, a sig ($p < .05$) interaction effect was found. Learning was maximized by matching Ss of a certain learning style with complementary instructional strategies. In this task, Ss identified as sequential information processors learned sig more quickly using part methodology and more slowly using whole methodology. Ss identified as holistic information processors learned sig more quickly using whole methodology and more slowly uwing part methodology.

102. NIKBAKHT. Hojjatollah. Prevalence of coronary artery disease risk factors in Iranian males attending American Colleges/Universities. Ph.D. in Exercise Physiology, 1978, 115 p. (David Pargman)

The prevalence of certain coronary artery disease (CAD) risk factors was assessed in 48 male Iranian college Ss aged 21 to 40 yrs who had been living in the US for more than 1 yr and who were temporary residents of the state of FL. The risk factors evaluated were relative wt (body wt divided by the s's height^2), % body fat, max VO$_2$, BP, serum cholesterol and triglyceride levels, serum low density lipoprotein cholesterol (LDL-C), high density lopoprotein cholesterol (HDL-C), LDL/HDL cholesterol ratio, and cigarettes smoked per day. In addition, the relation between the duration of the Ss' residency in the US and the prevalence of CAD risk factors was determined. Ss (n=15%) were found to have a relative wt value of 27 or more while about 50% had a body fat level greater than 20% of their body wt. Ss (n=40%) had a max VO_2 lower than the normal limit value, that is, 38 and 35 $ml/kg.min^{-1}$ for men aged 21-30 and 31-40 yrs respectively. No prevalence of elevated BP was observed in this group. Ss (n-35%) had serum cholesterol levels greater than 220 mg/100ml. and 12% exhibited serum cholesterol concentrations higher than 250 mg/100ml. Ss (n=25%) had serum triglyceride levels greater than 150 mg/100ml., while 55% exhibited HDL-C levels lower than 45 mg/100ml. Ss (n=35%) smoked 10 cigarettes or more per day. It was concluded that the prevalence of CAD risk factors observed in this study was relatively similar to levels reported for Ss from technologically advanced countries where there is a high incidence of CAD.

103. SANDERS, Jerry D. *Therapeutic exercise for quadriceps femoris during knee immobilization with implications for chondromalacia patellae*. M.S. in Exercise Physiology, 1979, 85 p. (D. Johnson)

Male varsity swimmers (n=24) were randomly assigned to a control and 2 treatment groups. 1 treatment group performed a supine isometric straightleg raise (SULR) whereas the other performed a seated isometric straightleg raise (SELR). All exp Ss performed 6, 6-sec isometric contractions with the dominant thigh 3 times per wk for 8 wks. A specially designed SULR apparatus allowed an isometric contraction of the knee extensors with a hip angle of 170^{o}, while the SELR apparatus ensured a hip angle between 110^{o} and 130^{o}. Peak quadriceps muscle torque was assessed with a Cybex isokinetic dynamometer at angular velocities of 30^{o}/sec, 90^{o}/sec, and 180^{o}/sec at the start of the study, and at the 2d, 4th, 6th, and 8th wk. An ANOVA revealed a sig diff for peak torque between the control and SELR group for the dominant thigh at an angular velocity of 180^{o}/sec ($p < .05$). In addition, trial 1 showed sig greater peak torque of the non-dominant thigh at an angular velocity of 90^{o}/sec than trials 2, 3, 4, or 5 ($p < .005$). At 180^{o}/sec for the non-dominant thigh, trial 1 showed sig greater peak torque than trials 2, 3, or 5 ($p < .005$). No other sig results occurred.

104. STIEGER, Jerome J. *The effect of Title IX on the*

physical education programs in the public secondary schools in Florida. Ph.D. in Physical Education, 1978, 158 p. (L. J. Wells)

Participating in the study were 225 (34.3%) of the 656 schools receiving questionnaires. They represented 44 (65.7%) of the state's 67 counties and were located in north, south, east, west, and central Florida. Approximately 90% of the activities included in this investigation were affected by Title IX. Volleyball and softball were changed from being taught separately to coed in the largest no. of schools. Golf was added to the curriculum of more schools than any other activity because of Title IX. Wrestling was the activity most often dropped because of the law. Although rhythmic, physical fitness and recreational games activities would seem ideal for coed instruction only 2 of the rhythmic and none of the physical fitness or recreational games activities were being taught coed in all schools offering them. Some of the conclusions reached from this investigation were as follows: There was disagreement among physical educators as to what activities were suitable for coed classes. Lack of administrative support has made implementation of Title IX impossible in some schools. Most physical educators did not believe the total PE curriculum should be coed.

105. THIBAULT, Fredrick H. The construction of three videocassettes depicting the sequential development of the fundamental motor patterns of catching, overhand throwing, and striking. Ph.D. in Physical Education, 1978, 169 p. (E. C. Burton)

A total of 14 Ss, 6 males and 8 females, were used to demonstrate 3 levels of development (initial level, improved level, refined level) in each specific pattern. A survey of the literature was conducted to identify the performance characteristics of each level of development within each motor pattern. A chart summarizing the analysis of each motor pattern was forwarded to 3 motor development experts to establish content validity. A shooting scipt was written incorporating the characteristics identified in the analysis charts. Videotaping and super 8mm high speed filming (to illustrate movements in slow-motion and stop-action) was conducted at Bryant Elementary School, Wichita, KS. Construction of the videocassettes was accomplished at Wichita State University with the assistance of the Media Production Center. Following the editing and placing of the narration on the master videocassettes, the videocassettes were appraised for technical quality and accuracy of content. This assessment was positive, indicating that the videocassettes should be of value as instructional tools in the area of motor development and assessment of fundamental motor patterns.

106. VICENTE, Jose C. Prediction of body density in Puerto Rican college males through anthropometric assessment. Ph.D. in Physical Education, 1978, 94 p. (P. W. Everett)

A total of 60 volunteer male Puerto Rican college students between the ages of 18 and 23 were studied. The underwater wt method was used to measure body density. A total of 38 anthropometric measurements were studied. The physical characteristics of the Ss were: Age ($\bar{X}$ = 21.3 yrs, SD = 1.5 yrs), wt ($\bar{X}$ = 71.1 Kg., SD = 12.5 Kg.), ht ($\bar{X}$ = 171.5 cm. SD = 6.7 cm.), body density ($\bar{X}$ = 1.0692 g/ml., SD = 0.0178 g/ml.), body fat ($\bar{X}$ = 13.2%, SD = 7.2%), residual lung volume ($\bar{X}$ = 1267 ml., SD = 386 ml.). The highest simple r between the studied anthropometric measurements and body density (r = 0.82, SE = 0.0103) was obtained from the chest 1 skinfold. The highest R (R = 0.91, SE = 0.0078) was rendered by the following equation: Body Density = 1.125445 - 0.0004201439 chest 1 SF - 0.001218933 triceps 1 SF - 0.001697586 abdomen 2 C + 0.001367832 bideltoid D - 0.001796107 age + 0.0007873463 chest C Prediction of body density with regression equations derived in other studies resulted in a lower prediction accuracy when used in the studied sample.

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107. ABDELWAHAB, Farouk E. The effects of active and passive heat acclimatization procedures on the cardiovascular, thermoregulatory, and sweat rate responses to exercise in the heat. Ph.D. in Human Performance, 1978, 168 p. (John Cooper)

2 groups of 6 Ss were given exercise tests prior to and following 2 diff programs of heat acclimatization: "active" group walking on the treadmill (50% VO_2 max) in an environment 40^oC Tdb 23^oC Twb, and "passive" group, immersed in a water bath at 40^oC. Each program lasted 90 min daily, for 5 consecutive days. SV, HR, cardiac output (Q_c), arteriovenous O_2 diff (AVO_2), rectal (Tre), and mean skin ($\bar{T}s$) temperatures, VO_2, sweat rate (SWR) were measured during the pre and post acclimatization exercise tests. Both groups showed a sig response to walking 1 hr in 40^oC Tdb, 23^oC Twb, at 40% to 50% of VO_2 max. The HR decreased, the SV and

AVO_2 increased, and Q_c stayed the same following the acclimatization procedure. Also, the Tre and Ts were lower, and SWR increased, with no change in VO_2. Results indicate that acclimatization to heat could occur by either active (exercise) or passive (non-exercise) methods. The "active" group showed more extensive alterations in both the cardiovascular and thermoregulatory responses to work in the heat after the acclimatization procedures than did the "passive" group.

108. ABSHER, Ruby R. The history of the Indiana State Board of Health from 1922 to 1954. H.S.D., 1978, 321 p. (Donald J. Ludwig)

Data from records of the IN State Board of Health (S.B.O.H.) were classified, criticized, interpreted, and presented in a narrative format based upon the topical and chronological arrangement of data in the time periods corresponding with the administrations of HE commissioners who served from 1922 to 1954. In meeting the original objectives of disease prevention and promotion of good health practices for which the Board of Health was founded, educational and enforcement efforts resulted in improved quality of milk, food, H_2O, drugs, proper labeling of products, and correct weighing and measuring of commodities. Progs promoting immunization against communicable diseases, control of VD, good maternal and child health, industrial safety, fluoridation of public water supplies, understanding of chronic diseases, and control of tuberculosis were implemented. Sewage treatment facilities and sanitary school buildings were constructed at the insistence of the S.B.O.H. A state-wide hospital plan was developed, the merit system for employee selection was adopted, and 5 branch offices were located throughout the state. Inadequate funds and periodic personnel shortages limited progs. Federal funds were available for specific progs. Varied prog problems occurred. Educational efforts made the public aware of the importance of indiv responsibility in solving problems. The broadened concept of what constituted a sound public HE prog was conclusive evidence of growth and expansion in the field.

109. ANDERSON, James L. A comparison of the effects of physical education classes in boxing and gymnastics on the self concepts of college freshmen. P.E.D., 1978, 108 p. (George Cousins)

This study determined whether a combative activity, boxing, taught during a required PE class produced diff effects upon the self concepts of college freshmen men at the US Military

Academy, than did a non-combative activity, gymnastics, taught during a required PE class. 2 random groups, boxing group and gymnastics group (N=150), plus 2 validation groups of (N=60) were administered the TSCS before and after exp treatments consisting of required PE classes in boxing and gymnastics. Data were analyzed using the Hotelling T^2 statistical test with the repeated measures design and the stepwise multiple discriminant function analysis with the group design. The null hypotheses for pre-tests and post-tests were rejected for both exp groups using the Hotelling T^2 statistic. Of 14 diff discriminant function analyses which were computed, the 7 computed using the pre-test data were all found to be not sig. 5 of the 7 discriminant functions that were computed using the post-test data were sig ($p < .05$). The 2 discriminant functions which were not sig involved the gymnastics group. The boxing treatment appeared to produce positive changes in the self concepts of the boxing group, sig diff from the changes produced within the gymnastics group by the gymnastics treatment.

110. BEDINGFIELD, Wendy A. Kinematic and descriptive comparison of ski jumping techniques. Ph.D. in Human Performance, 1978. (John M. Cooper)

The relationship of selected variables to success in international ski jumping was investigated. High speed cinematography was used to collect data at the international ski jumping competition held on Mt. Norway in Thunder Bay, Ontario, CAN. The film was projected onto an electronic digitizing surface and the raw data obtained were further reduced with the aid of computer programs. r's between the selected variables were calculated and variables describing position and movement were used to make comparisons between better and poorer performance. Better performers exhibited greater knee extension, greater hip extension, and less arm extension at take-off than did the poorer performers. Diffs were also observed in the pre-takeoff movement patterns of American vs European Ss. It is possible to determine important kinematic parameters in ski jumping through the use of cinematographical analysis. Data collected under conditions of competition result in the identification of factors which differentiate between better and poorer performers.

111. BELKNAP, Larry K. Impact of the Indiana University executive development program for park and recreation administrators on selected program graduates. Re.D., 1978, 283 p. (Theodore R. Deppe)

The problem was to measure the impact of the IU executive development program for park and REC administrators (EDP) on on the personal and professional growth of selected program grads. The instrument used was reviewed by a jury of experts, pilot tested, and tested for reliability prior to mailing to the 1969, 1971, 1973, and 1975 grads of the EDP; responses were tabulated and analyzed by frequency distributions, %, and median values. A X^2 test for independence was conducted ($p < .05$) to determine if responses were independent of 6 variables related to S's biographical information. EDP was most beneficial toward improving the personal and professional growth of 1969 and 1971 grads. EDP excelled when compared to other types of continuing educ. EDP had its greatest impact on grads under 25 and over 44 yrs of age, with a BS degree of HS diploma, with more than 15 yrs administrative experience, and employed in a non-related position. There was little diff in the EDP impact on Ss as related to their professional curriculum. Objectives of the EDP were met to a satisfactory level. EDP improved grad's overall knowledge, skills, and attitudes, regardless of variable classifications. EDP impact was greatest for executives in the field 5 to 7 yrs following graduation.

112. CAMPBELL, Judith M. Selected factors and practices in the competitive basketball programs for high school girls in Indiana, 1975-1976. P.E.D., 1978, 175 p. (Evelyn Davies)

Selected factors and practices used by the head coaches of the teams entered in the 1976 IN HS Athletic Association's (IHSAA) first basketball tournament for girls were examined. Of the 360 questionnaires sent to head coaches of IN HS girls' teams, 267 responded. Comparisons were made according to the sex of the coaches and data for the total population. When deemed appropriate, data for each sex, and total population were compared to ranking in the tournament. Selected factors and practices of the basketball programs were tested for their independence and/or $\underline{r}$ with ranking in the tournament by use of X^2 and Pearson $\underline{r}$ statistical techniques. The majority of coaches were women in their 20's, who were trained in IN, who held master's degrees, and who taught PE. Defensive work and drills were thought to be of most benefit to the total programs. Only 7 factors or practices were found to have sig effects upon the teams' rankings in the tournament. There were many factors and practices common to the basketball programs for girls in HS in IN; most of these did not have any direct effect upon rankings in the 1st 1976 IHSAA basketball tournament for girls. There was some dissatisfaction with the preparation in coaching received by the coaches. Overall attitudes were positive with respect to competitive basketball programs for girls. The 1976 IHSAA basketball tournament was concluded to be a very positive force in the development of the athletic programs for girls in IN.

113. COLE, Sandra S. Design, construction, and testing of a bowling machine for biomechanical research utilization. P.E.D., 1977, 217 p. (John M. Cooper)
The problem was to design, construct, and test a machine that could release a 16 lb bowling ball with diff speeds, spin rates, spin angles, and track locations so that the released ball could possess the same characteristics as a ball rolled by a human bowler. The bowling machine was designed and constructed in cooperation with the IU Electronics DEPT to meet established criteria. The machine was tested and evaluated in regard to its reliability and validity in producing selected characteristics of a strike ball. A 10 ft laser timing trap, which included a powder trap, was positioned 10 ft in front of the machine and utilized in collecting the data concerning the produced ball speeds, ball track %, and ball track locations. Conducted at the 17.9 and 20.5 ft/sec calibration positions, were 25 trials. A hysteresis loop was constructed and analyzed to determine the accuracy of the machine's springs. The machine was found to have the capacity to roll a 16 lb bowling ball at average speeds of 17.99 and 20.61 ft/sec and produce a ball track utilizing an average 96.70 and 96.69% of the ball's circumference. A machine was dev capable of delivering a 16 lb bowling ball with appropriate levels of speed, accuracy, and reliability.

114. COTTER, Linda L. Group cohesiveness and team success among women's intercollegiate basketball teams. P.E.D., 1978, 160 p. (Anita Aldrich)
The Sport Cohesiveness Questionnaire was administered to (N=138) women's basketball teams from 2 college conferences in northern CA, before and after the season. Team success was determined by % of games won. Data were analyzed by stepwise multiple linear regression analysis, discriminant function analysis, and ANOVA ($p < .05$). Those factors found to be sig predictors of success were the cohesiveness variables (Closely Knit and Power), the satisfaction var (Satisfaction General), and the motivation var (Task Orientation and Affiliation Orientation). The vars labeled power, closely knit, and enjoy playing with others were sig in discriminating between success groups. Scholarship

schools differed from non-scholarship schools by scoring sig higher on self orientation and sig lower on affiliation orientation. Successful and unsuccessful teams did not differ on preseason to post season cohesiveness changes. It was concluded that several of the variables measured can be used to preduct success and discriminate between successful and unsuccessful groups. Scholarship women basketball players differ from non-scholarship women basketball players only by scoring higher on self orientation and lower on affiliation orientation. Seasonal changes in cohesiveness were not found to affect success.

115. DAVIS, Jane A. Two methods of instructing elementary education majors to teach elementary school children Physical Education. P.E.D., 1978, 248 p. (Anita Aldrich)
ELEM Ed majors in an exp PE methods class were taught to present PE to children thru integrating science and PE concepts. ELEM Ed majors in a control methods class were taught to present PE to children without integrating science concepts. Each spent 8 wks teaching parochial school children PE. Boys and girls grades 4, 5, and 6 were pretested and post tested to determine whether, after instruction, the factors of method of instruction, grade level, sex, extended laboratory program, or grade level preference influenced children's achievement in PE. Children in the integrated group were sig better in ball rebound motor skills. Children in the traditional group were sig better in knowledge of PE. Children in grade 6 were better in achievement of PE. Boys were better in ball related motor skills ELEM Ed majors teaching experience and grade level preference did not influence children's achievement in PE. The integrated method of instruction was superior in refining children's rebound motor skills. The traditional method of instruction was found to be superior in furthering children's knowledge of PE.

116. DESSUREAULT, Jacques. Selected kinetic and kinematic factors involved in shot putting. Ph.D. in Human Performance, 1976, 116 p. (John M. Cooper)
An attempt was made to investigate the components of thrust recorded by the feet of the athletes while putting the shot. These components of thrust were related to the kinematic parameters as measured by film, the movement patterns of the 13 collegiate and amateur subjects studied. 3 data collection sessions were held in the spring season of 1974. 2 Locam 16mm cameras were used in conjunction with 2 force

platforms mounted front to back of an outdoor long jump pit at IU. Both cameras were operated at 150 fps. Data from the films was digitized on a scriptographic area from a Wang Programmable Calculator and later transferred to a datagraph 5-135 and analyzed by means of a Keuffel and Esser planimeter. Computer progs were used to calculate most of the kinematic parameters investigated throughout the study. The best performers were characterized by a gradual vertical movement of the shot from the back of the circle to release. They tended to stabilize their body movement rate of vert acceleration at time of release of the shot. The total vert impulse did not appear to contribute sig to the final velocity of the shot; the total horizontal thrusting impulse exerted by both feet was negligible compared with the total horizontal braking impulse accumulated during the front foot contact.

117. DUVAL, Harry P. The relationship of sodium-calcium ratios and central body temperature during exercise and recovery in male humans. Ph.D. in Human Performance, 1978, 125 p. (Arthur Slater-Hammel)

The theory was investigated that changes in plasma Na-Ca ratios play a role in the regulatory mechanism which controls body temp during exercise. The study was designed to examine the contention that Na-Ca ratios could function as a mode of communication of thermoregulatory information between the periphery and "core" in humans during exercise. For 20 min, 4 male humans exercised on a bicycle ergometer on 3 separate occasions at 45, 65, and 90% of aerobic capacity followed by an hr recovery period. Aliquots of arterial and venous blood were obtained periodically from indwelling catheters. During the exp session VO_2, HR, rectal, and esophegeal temps were determined each min. A resting control exp was performed in the same manner with the Ss merely sitting on the bicycle ergometer during the portion of the exp corresponding to exercise. Whole blood hematocrit, total plasma protein, and plasma Na and Ca concentrations were determined for both arterial and venous samples. There were no sig changes in Na to total Ca and Na to ionized Ca ratios with time for either arterial or venous plasma samples. Venous plasma Na-total and ionized Ca ratios increased sig with increasing work intensity. There was a sig negative r between rectal temp and arterial plasma Na-total and ionized Ca during exercise. During resting and recovery period there was a sig negative r between rectal temp and arterial plasma Na-totaled Ca ratio.

118. FREDERICK, Stephen D. Performance of selected motor tasks by three, four, and five year olds. P.E.D., 1977, 132 p. (Clinton H. Strong)

Subjects in this study were children enrolled in day care centers in Dayton, OH. They were measured for 8 motor performance tasks: running 20 yds, vertical jump, standing long jump, balancing on right foot, balancing on left foot, throwing for distance, throwing for accuracy as well as for ht, wt, and eye-hand foot dominance. A 3 factor, fixed ANOVA was used to test for sig diffs in motor performance in terms of age, sex, and race. An investigation of the relationship of ht, wt, and dominance to motor performance was done by cross tabulation analysis and X^2. A Pearson r analysis and the intraclass r coeffieicnt were also employed. Sig diffs were found for all motor performance tasks with the older children having the greatest diff between age groups. Boys scored sig higher than girls in the throw for distance, throw for accuracy, and vertical jump. Girls scored sig higher than boys in the right foot balance and left foot balance. Black children scored sig higher than the white children on the vertical jump. There was no sig relationship between ht, wt, and hand-eye dominance, eye-foot dominance, or hand-foot dominance with motor performance level. No sig interrelationships existed among the 8 motor performance tasks.

119. HARBET, Shelia C. Attitudes and behaviors of college women concerning female masturbation. H.S.D., 1978. (Donald J. Ludwig)

An instrument to determine the status of behavior and attitudes on female masturbation by college women and to determine the diffs in background, sexual behavior, and attitudes between college women who masturbate and those who do not, was developed. Selected items from 3 available questionnaires were modified and combined with additional items in the current study. The refined instrument was administered to 480 female Ss at CA State U, Northridge. A small group of women were retested to obtain a measure of stability or consistency over days. Data were factor analyzed to identify patterns of relationships within the data. With the test-retest situation consistency over days was determined. The computer intraclass reliability coefficient was obtained for the data. The factor analysis strategy identified 6 robust factors which represented the hypothesized domains. Descriptive data collected indicated the no. of women who had formal human sexuality courses, whether courses included discussions on masturbation, the no. of women who had engaged in coitus, the no. of women who had experienced orgasm from any source and from masturbation, the no. of women who masturbate and experience more than 1 orgasm, and reasons for masturbation in women. The variables selected to represent the hypothesized factors are composed of distinct components of 6 robust factors: attitude toward masturbation, sex values and orientation, sex knowledge, contraceptive choice, awareness of women's movement, and sexual guilt and concern. The instrument was determined to be valid and reliable.

120. HENSON, Phillip L. Pace and grade related to the oxygen and energy requirements, and the mechanics of treadmill running. Ph.D. in Human Performance, 1976, 128 p. (John M. Cooper)

The relationships among variations in running speed and grade and their effects upon various physiological variables in running at a steady state was investigated. Relative steady state VO_2 of 6 cross country runners were determined while running at 15 combinations of speed and grade. In top competitive condition, each S ran on a motor driven treadmill for 4 min at each of 3 speeds (229.87, 268.22, and 321.87 m/min) and at each of 5 grades (+8, +4, 0, -4, and -8). Measurements of VO_2, CO_2 production, HR response, and respiratory response were made during the final 2 min of each run. Biomechanical parameters of stride length and stride frequency, relative support and non-support, foot placement, trunk lean, and knee and hip angles were obtained from a 16mm film record. Data from each run were digitized and analyzed by computer. Descriptive statistical techniques were used to analyze the physiological and biomechanical parameters. Subjective determinations were made concerning various relationships and trends in the findings. A non linear increase in energy cost was observed with respect to speed. The relationship between speed and VO_2 for highly trained runners running on a treadmill was not in agreement with previously reported studies dealing with individuals walking in the similar environments. The respiratory rate was higher at the extreme positive and extreme negative inclines when running at competitive speeds. The relationship between stride length and stride frequency was found to vary with incline.

121. McDOLE, Stewart L. Recreation philosophy for the reorganized church of Jesus Christ of Latter Day Saints: A suggested rationale. Re.D., 1977, 364 p. (Theodore Deppe)

Developing a statement of philosophy or rationale of REC for the reorganized Church of Jesus Christ of Latter Day Saints was done through investigation of fundamental positions. Hypotheses were developed for the church member in the areas of time, work, leisure, and REC. Alternatives to the hypotheses were identified. Each hypothesis and alternative concept was examined; hypotheses were then accepted or rejected and subsequently modified as required to accommodate relevant alternative concepts. Hypotheses accepted demonstrated concepts of time in a vertical linear format with terminal points and measured mechanically; acceptance of work as vocation, but rejection of work's sole fulfillment role; acceptance of leisure as free time with value in maintaining well-being; and rejection of REC as activities of leisure time while accepting REC value as restorative. Conclusions favoring holistic positions casting all behavior as a continuum of choice for the fulfillment-seeking Christian Steward were drawn.

122. McMURRAY, Robert G. The physiology of restricted breathing. Ph.D. in Human Performance, 1977, 156 p. (John M. Cooper)

6 male Ss were arterially catheterized (brachial artery) to evaluate the effects of restricted breathing, rest and exercise (hypoxic training). Results were compared to similar conditions of normoxia, eupnic rest, and exercise. Restricted breathing was also evaluated as to its possible similarities to either hypoxia or hypercapnia. Ss completed the following protocol: 10 min of compressed air eupnic rest, 10 min of room air eupnic rest, 10 min of eupnic exercise, 30 min of supine recovery, 10 min of restricted breathing rest, 10 min of room air eupnic rest, 10 min of restricted breathing exercise. Exercise was completed at a predetermined workload of 65% of the S's max VO_2. Restricted breathing with inspiratory pause at a rate of 12 breaths/min was utilized. The 2, 30 min exp segments were randomly presented. Expired vol VO_2, CO_2 production, arterial pH, partial pressure of O_2, partial pressure of CO_2, O_2 saturation, various hematological and thermoregulatory parameters were evaluated during each 10 min period. Results indicated that restricted breathing exercise is not truly hypoxic hypoxia. Although the arterial partial pressure of CO_2 increased, total CO_2 did not. A true hypercapnic condition did not exist. Decreases in expired vol, pH, and the ratios of expired vol to either VO_2 or CO_2 production were found during restricted breathing exercise. All other parameters were found to be similar to eupnic breathing exercise. Restricted breathing rest (12 BPM) produced a degree of

respiratory alkalosis associated with hyperventilation.

123. OGDEN, Marion W. Attitudes of Southern Baptist leaders toward leisure and the place of recreation in the church program. Re.D., 1978, 160 p. (Robert Tully)
Analyzed were the attitudes of Southern Baptist (SB) leaders pertaining to leisure and the place of REC in church programs and to determine any implications that would affect the future of REC in churches. A questionnaire was developed and mailed to a random stratified sample of pastors and lay leaders of large SB churches. Data from 805 respondents were analyzed using the X^2 test of independence. Pastors felt stronger that personal ambitions were met best through their work. The pastors would not spend new free time in church activities while lay leaders would. Church leaders generally agree that evangelism should be the primary goal of church REC. There was some diversity of attitudes among all SB leadership groups. There was basic agreement between all leadership groups. SB leaders do not feel their churches are properly using church REC.

124. PRINS, Jan H. Historical changes in human skeletal muscle with isokinetic strength training at two distinct limb speeds. Ph.D., 1978. (James E. Counsilman)
The study was to identify the changes in cross-sectional fiber diameter of fast-twitch and slow-twitch muscle fibers when Ss exercised on isokinetic strength training apparatus at limb speeds of either 130^o/sec or 35^o/sec. Adult males (N=10) were divided into 2 groups and exercised on isokinetic leg extension apparatus 4 days/wk for a period of 10 wks. Exercise periods consisted of 10 work hours of 15 sec duration. Groups were designated fast speed (limb speed 130^o/sec) and slow speed (35^o/sec). Needle muscle biopsy was performed on the vastus lateralis muscle of each S before and after the 10 wk period. Tissue was histochemically treated for myosin ATPase at pH 9.4 and a cross-sectional area of individual fiber types were measured using polar planimetry. Work output (Kmp) was recorded over the 10 wk exercise period. Standing vertical jump scores and leg girth measurements were taken before and after the study. Ss in fast speed exercise group showed a sig increase in the cross-sectional area ratio of the fast-twitch fibers and a corresponding decrease in the cross-sectional area ratio of the slow-twitch fibers. The slow speed exercise group showed a sig increase in the cross-sectional area ratio of the fast-twitch fibers. Both groups showed a sig increase in

work output. No sig change in leg girth was noted in either group. Standing vertical jump scores increased in the fast speed group. No sig change was seen in the slow speed group.

125. REA, Phillip S. The relationship between selected variables and employee-family recreation participation at the Cummins Engine Company. Re.D., 1978, 173 p. (Theodore R. Deppe)

Relationships between the REC participation patterns of employees, and members of their families, of the Cummins Engine Co. in Columbus, IN, and the selected variables (var.) of occupation level, income, length of employment, family size, and travel distance were determined. A survey instrument was developed, pretested with the Cummins REC Assoc staff and board, and pilot tested with 25 employees representing all occupational strata. The instrument was mailed to a 10% proportional stratified random sample of all Cummins employees. Questionnaires were collected from 598 employees. Frequency and X^2 computer programs (SPSS) were applied to provide descriptive data and to determine the existence of sig diffs between predictor and criterion var. Sig diff were found between all of the predictor var. and employee-family participation at Ceraland, whereas only 4 of 35 possible relationships between the selected var. and frequency of Ceraland participation were sig diff. Sig diff were found between all of the selected var. and REC participation with agencies other than the employee REC assoc. Cummins employee-family participated more frequently in REC programs at Ceraland than at all other community agencies combined. Greatest Ceraland participation was by blue collar employee-families of 4 or 5 members with better than average income; however, the highest rate of participation was by the higher occupation and income Ss.

126. SANDERS, Jack A. A practical application of the segmented method of analysis to determine throwing ability. Ph.D. in Human Performance, 1977, 111 p. (Theodore A. Baumgartner)

Members (N=27) of the 1975 IU baseball team served as Ss. Each was filmed using 2 high-speed cameras while executing an overarm throw for max velocity. The film data were analyzed using a P-40 Recordak and a human motion analysis computer program, FILMDAT. 3 stepwise multiple R's were used to determine prediction equations for baseball velocity. Throwing factors which should be considered by coaches when attempting to improve throwing performance included: length of stride, angular velocity of throwing hand, velocity of throwing shoulder in a vertical direction, and vertical push-off leg force. As a single throwing factor, vertical push-off leg force explained 18% of the ball velocity variance. Film analysis was found to be acceptable as a method for determining ball velocity. The combination of variables selected for study in the time saving analysis of film data did not explain enough variance to warrant use in prediction equations. The contribution of the push-off leg in a vertical direction during the throw has been quantitatively overlooked in previous studies, and as a single predictor it may be one of the best indicators of throwing performance. A regressional analysis which includes selected predictors from several kinematic and kinetic sources produces the best prediction equation.

127. SELLS, Thomas D. Selected movement and anthropometric variables of football defensive tackles. P.E.D., 1977, 95 p. (Clinton H. Strong)
Studies to determine what, if any, relationships existed between success as an intercollegiate defensive tackle and reaction time in a simulated open skill situation (SOSS), movement time in a SOSS, 5-yd sprint time, 40-yd sprint time, ht, wt, and % of body fat. Defensive tackles at 7 IN colleges were tested and measured during the 1st day of 1977 preseason football practice. Special timing equipment was constructed and utilized to test RT, MT, and 5 yd sprint time. Tackles were categorized into 3 success level groups. Data were processed through a multiple discriminant stepwise analysis computer program to test the sig of the relationship of the 7 variables to the 3 groups. 4 variables in combination were found to sig discriminate among 3 diff success groups of defensive tackles. The var were ht, wt, 40-yd sprint time, and MT in a SOSS. The most successful group of tackles were shorter, heavier, faster 40-yd sprinters, and possessed quicker movement in a SOSS.

128. STEIN, Nancy H. Causal attributions and effectiveness of diffusion techniques as perceived by physical education department chairpersons. P.E.D., 1978. (Anita Aldrich)
The problem was to examine PE DEPT chairpersons' attributional patterns, the perceived causal attributes of the successful use of diffusion techniques, and the perceived effectiveness of 8 diffusion techniques. A subproblem was to develop the instrument and establish its validity and reliability. A random selection of 495 colleges and universities offering a professional undergraduate PE program provided Ss (N=642).

Content validity of the research instrument was established by a jury of experts, and the alpha coefficient of internal consistency was utilized to establish the reliability estimates. Applied to the split plot factorial design was an ANOVA. The causal attributes of the successful use of diffusion techniques were perceived similarly by men and women; causal attributes were diff from 1 another. Ability was the most influential attribute while luck was least influential, the attributional patterns manifested by the male and female chairpersons were similar, the mandating technique yielded a sig diff between men and women in terms of perceiving effectiveness, the majority of diffusion techniques were sig diff from 1 another, and both men and women regarded discussing involving and training to be the most effective diffusion techniques. There was no discrepancy between men and women in assigning causality for a successful achievement, women did not perceive luck and/or effort as the primary reason for their success, no disparate attributional patterns existed between men and women, both men and women utilized and perceived as effective similar diffusion techniques, both men and women perceived discussing involving, and training, respectively, to be the most effective diffusion technique.

129. STILLWELL, Jimmie L. Attitudes of student teachers toward selected areas of teaching. P.E.D., 1978, 139 p. (John B. Daugherty)

Student teachers (ST) attitudes were assessed by means of the Minnesota Teacher Attitude Inventory (MTAI), toward selected areas of teaching, before and after their teaching experiences. The 150 items of the MTAI were subscaled into 4 categories: attitude toward methodology, discipline, teacher-student relationships, and students. The PE Ss who completed 8 wks of ST were administered the MTAI during the 1st and 8th wk of their experiences. The ELEM ST who completed 16 wks of ST were administered the MTAI during the 1st, 8th, and 16th wk. Responses were tabulated and data analyzed to determine the effects of both an 8-wk and a 16-wk ST on their attitudes toward teaching. There was a sig change in the attitudes of both the 8-wk PE ST and the 16-wk ELEM ST. There was no sig diff between male and female 8-wk PE ST on their attitude toward teaching. Attitudes toward teaching were unchanged for 8-wk PE ST and 16-wk ELEM ST. The attitudes of ELEM ST and PE ST changed in a negative direction as a result of ST. Female PE ST were found to have more positive attitudes toward teaching than male PE ST.

130. STOUT, Carl M., Jr. An analysis of visitors' participation in, and attitudes toward the organized recreation programs in Kentucky's state resort parks. Re.D., 1978, 191 p. (Donald W. Martin)

A self-admin questionnaire was developed and mailed to a sample of 1,000 park visitors who stayed overnight or longer in a KY State Resort Park, the 3rd wk of July, 1975. Data were analyzed on the relationship of the types of overnight accommodations selected by park visitors to their participation in the organized REC programs, determination of the relationship of selected socio-economic variables to participation in the organized REC programs, the determination of types of activities most enjoyed, perceptions of activities needed, and the influence that organized REC programs had on park visitors. Also examined was the relationship of attitudes between participants and non-participants toward organized REC programs in KY State Resort Parks. Over 65% surveyed had participated in some facet of the organized REC programs. Results indicated the socio-economic variables of age of the head of the family, the no. in the party, and the no. of children in the party make sig diffs in park visitors' participation in the organized REC programs. It was concluded that organized REC programs appeared to be a valuable investment for the KY DEPT of Parks overall although, as they are currently administered, some shortcomings were noted.

131. UMANSKY, Warren. Prediction of preschool performance in selected areas from perinatal factors. Ph.D. in Human Performance, 1976, 116 p. (Clinton Strong)

The relationship between selected perinatal factors and the perceptual-motor performance of preschool children was determined. Children 3, 4, and 5 yrs old from 5 preschools were administered the Frostig Developmental Test of Visual Perception and developmental checklists of perceptual-motor and pre-academic performance. Birth records were obtained for Ss to assess perinatal factors: 1 and 5 min Apgar scores, birth-wt, length, head circum, chest circum, use of perinatal analgesia, and presence of delivery complications. Relationships between perinatal and preschool variables were assessed by performing r analyses. Significant negative relationships of low magnitude were found between head circumference and Frostig DTVP and between birth complications and the Perceptual-Motor Scale. No other relationships between perinatal factors and preschool perceptual-motor performance were sig. The admin of analgesics to the mother during delivery or the type of analgesia did not affect the condition of the infant.

132. WILKERSON, Jerry D. Kinematic and kinetic analysis of the back handspring in gymnastics as performed on the balance beam. Ph.D. in Human Performance, 1978, 140 p. (John M. Cooper)

Performances of 11 female college and club gymnastic competitors (of intermediate skill ability) were recorded with the use of 2 LOCAM 16mm high speed motion picture cameras and a specially designed force instrument making it possible to record forces in 3 planes. Kinematic variables (var) were calculated with the aid of the computer. Kinetic data were measured and analyzed through the uses of an electronic planimeter. All performances were evaluated by 4 rated judges. Correlation techniques were used to compare the judges' scores with the kinetic and kinematic variables and to examine relationships among var. 2 separate techniques of executing the back handspring on the balance beam were characterized by 1 or 2 separate flight phases. The time spent in flight was positively correlated with all vertical parameters and angles and force parameters were similar to the parameter findings of previous research of the back somersault when executed on the floor. Vertical force means were twice as large as all corresponding horizontal force means. Larger horizontal impulse measures were associated with less time spent on the hands and body angles indicating continuous backward movement. It was confirmed the collection of kinetic data is possible for the execution of skills performed on the balance beam. The mechanics of executing some aspects of the back handspring on the balance beam are diff from those utilized in the back handspring on the floor. Precise measurements of the center of gravity of the trunk and the total body center of gravity, when the performer arches the back excessively are not possible with the present segmental model.

JAMES MADISON UNIVERSITY (Earlynn J. Miller)
HARRISONBURG, VIRGINIA

133. BAUMANN, Diane S. A suite of fifteenth century Italian court dances with music and costumes reconstructed for ensemble and concert performance. M.S. in Physical Education, 1978, 46 p. (E. J. Miller)

134. BELL, Laurie. Movement characterizations of four fantasy personalities. M.S. in Physical Education, 1978, 57 p. (E. J. Miller)

135. CHAMBERS, V. Blaine. The choreography of the musical

"Cabaret." M.S. in Physical Education, 1973, 52 p. (E. J. Miller)

136. CLINE, Kaye W. The creative utilization of mythology of the Gorgon Sisters in a choreographic work. M.S. in Physical Education, 1976, 33 p. (E. J. Miller)

137. HOWARD, Edwin W. The historical development of selected forms of American folk dance: A lecture-demonstration. M.S. in Physical Education, 1978, 73 p. (E. J. Miller)

A knowledge of what specific dances looked like and how they changed over the yrs was researched to show to an audience in the form of a lecture-demonstration. Information was gathered by interviewing and attending workshops conducted by specialists in their respective fields, and from written material. The types of dances studied and presented were eighteenth century contras, reels and cotillions; Southern Appalachian running sets, play party games, and big circle mountain dance and clogging; New England contras; and traditional and contemporary western square dance and round dance. The lecture-demonstration was presented by the Folk Ensemble of the James Madison University Dance Theatre and has been recorded on videotape.

138. LICCE, Paul. "Elementauge": The effect of selected elements in production design on a repeated choreographic work. M.S. in Physical Education, 1977, 42 p. (E. J. Miller)

139. MALONEY, Nancy E. Selected and varied elements of chance used as an approach in the structuring of the choreographic work: "5 Lbs. of flour makes a mighty big biscuit for what's wrong with this picture." M.S. in Physical Education, 1978, 93 p. (E. J. Miller)

140. PETERSON, Barbara A. Human interaction as a choreographic premise for the dance work: "Passing Thru." M.S. in Physical Education, 1978, 94 p. (E. J. Miller)

The choreographed portion of this thesis was based on the concept of life expressed as human interaction for the creation of group choreography. A philosophical review of literary works related to this concept provided the theoretical framework for the study. This creative thesis was performed in Latimer-Schaefer Theatre, Duke Fint Arts Center, at James Madison University in Harrisonburg, Virginia, on March 18, 19, 20, 1978. Original music scores were written for the piece by Tim Niebergall and David D'Agastino. A set was designed for the piece by Robert Druie.

141. TRYKOWSKI, Denay. The development of a graphic design sampler for the promotion of dance by James Madison University. M.S. in Physical Education, 1978, 58p. (E. J. Miller)

A master dance symbol, taking the shape of a tri-form abstract design, was created for adoption by the Dance Program of James Madison University for the promotion of dance. A design sampler was devised to illustrate a limited no. of graphic models for potential application of the dance symbol in both general and specific promotional situations. The graphic design sampler was developed and presented as a thesis to help dance faculty, staff, and students at James Madison University to more readily envision their own solutions to promotional design problems in dance.

142. WINN, Juanita. "Hillfashion": A dance based on the life and spirit of a southern mountaineer family. M.S. in Physical Education, 1977, 46 p. (E. J. Miller)

KANSAS STATE UNIVERSITY (Larry Noble)
MANHATTAN, KANSAS

143. BLATTNER, Stuart E. Relative effects of isokinetic and plyometric training on the vertical jump ability of college males. M.S. in Physical Education, 1978, 41 p. (Larry Noble)

48 college male volunteers were tested for vertical jumping ability and randomly assigned to 1 of these groups. These groups were then randomly assigned to 1 of the following groups: control, isokinetic training, or plyometric training. Ss in the training groups trained 3 times per wk for 8 wks. The isokinetic group did 3 sets of 10 reps of leg presses per training session. The plyometric group did 3 sets of 10 reps of depth jumps from a ht or 34 in with added resistance beginning with wks 3, 5, and 7 of 10, 15, and 20 lbs respectively. Ss were then tested for vertical jumping ability. ANCOVA revealed that both exp groups adjusted posttest scores were sig higher than those of the control group; however, there was no sig diff between the two exp groups.

144. SULLIVAN, Elizabeth. The effect of social facilitation on the state anxiety level of a defeated male. M.S. in Physical Education, 1978, 51 p. (Charles B. Corbin)

The state-anxiety level of 60 college males was analyzed following defeats on a TV pong game by male and female opponents. Ss were randomly assigned to 1 of 6 treatments: male opponent - male audience, male opponent - female audience, male opponent - no audience, female opponent - female audience, female opponent - male audience, and female opponent - no audience. Spielberger's STAI was administered to each S following defeats of the 1st 2 games of a supposed 3-game match. ANOVA revealed no sig diffs among treatments.

KENT STATE UNIVERSITY (R. Bos)
KENT, OHIO

145. GALLIT, David L. Knowledge as skill: An epistemological study of physical education. Ph.D. in Physical Education, 1978, 186 p. (B. Seidel and M. Steel)
Neo-empiricism, the view that fact and truth are established by the social and linguistic community, is introduced. An equally important claim in neo-empiricism, that learning is obtained by means of exemplars, or exemplary models which lead the student through the required moves so that he acquires a skill and a new view of the world, is also examined. It is argued that the traditional epistemology is not suitable as a philosophical basis for PE since it does not account for the knowledge of the learning of skills. Further, there is nothing in the discipline of PE that could function as a given and thus as a basis for knowledge as it is traditionally understood. It is suggested that neo-empiricism provides an excellent basis for investigation in PE, because it provides a framework for all learning which permits the conclusion that learning of any type is a skill. Another implication of neo-empiricism is that the mind and body are not separate entities and that there are not 2 different kinds of learning, mental and physical or motor learning. Since all learning, then, is skill, learning is basically physiological. The learner is an integraged whole; he learns both to run and to do philosophy with his body and his senses.

146. KATOVSKY, Thomas M. The relationship of various visual components to tennis skill. M.A. in Physical Education, 1978, 86 p. (R. Stadulis)
Female Ss (n=21) ranging in age from 38-55 yrs were administered a tennis skill test (Kemp-Vincent Rally Test) and various visual tests (binocularity, depth perception, coincidence-anticipation, speed of recognition, and visual acuity). Simple linear r indicated low relationships

between tennis skill and the independent variables. ANOVA and MANOVA did not yield sig diffs between high and low skilled tennis players on the vision variables measured. However, multiple r and multiple regression identified 12 vision variables and experience as sig predicting tennis skill ($r = .94$). The low std error of the estimate and the low $\overline{X}$ % diff between the S's actual tennis test score and the score predicted from the regression equation further evidenced the strong relationship between tennis skill and the 13 independent variables.

147. MCCONNELL, Timothy R. The physiological effects of changes in workload duration and increment during submaximal testing. M.A. in Physical Education, 1978, 79 p. (W. Sinning)

Selected responses were observed to submax bicycle ergometer tests that differed in the amount of time exercised at each workload and in the size of the workload increments. The responses were PWC_{170}, PWC_{150}, O_2 uptake at PWC_{170}, respiratory exchange ratio and core temp. 6 male Ss performed 12 continuous step-increment work tests on a Monark bicycle. Durations of 1, 2, 3, 4, 5, and 6 min with continuous increases of 150 kgm/minor 300 kgm/min were administered. Each test was continued until the completion of the step-increment at which the S's HR attained a level of 170 BPM. Sig higher O_2 uptakes, higher respiratory exchange ratios, and higher PWC_{170}'s and PWC_{150}'s were obtained for work tests with 1 and 2 min work rate durations. Sig higher core temp was obtained for tests with 5 and 6 min durations. Work tests using 300 kgm/min work increments elicited sig higher O_2 uptake and PWC_{150} values than tests with 150 kgm/min increments. Work tests with 3 and 4 durations produced no sigg diff in any of the measured responses.

LAKEHEAD UNIVERSITY (J. Thomas)
THUNDER BAY, ONT.

148. BARRY, G. S. The relationship of pre-competition arousal assessments to self-perceived performance competencies in collegiate wrestlers. M.S. in the Theory of Coaching, 1979. (B. S. Rushall)

The relationship of pre-competition arousal assessments to self-perceived competencies in collegiate wrestlers was examined. The research design was a no. of single S case studies. Rushall's Pre-Competition Psychological Checklist was used so that each S could report his pre-match arousal symptoms, arousal (excitedness) level, estimation of winning, and post-match assessment of performance level. All Ss exhibited performance-grade specific arousal patterns. The highest caliber wrestlers illustrated increased sensitivity of pattern indicators and performance discriminators. This subgroup also evidenced the highest increases as well as the highest absolute values in arousal level. When all Ss were considered the relationship between arousal and performance was positive and linear thereby supporting the drive theory. Support was shown for the highest caliber athletes demonstrating the greatest control of arousal levels and symptoms.

149. BUSCH, J. D. The demonstration and evaluation of hemoglobin and hematocrit testing as support services in preparing elite swimmers for serious competition. M.S. in the Theory of Coaching, 1979. (B. S. Rushall) 2 studies demonstrated and evaluated the usefulness of hemoglobin concentrations (Hb gm%) and hematocrit % (Hct %) in the preparation of elite swimmers for serious competition. Study 1 monitored Hb and Hct levels of 9 male swimmers during 2 months of hard training, tapering, and post-competition rest. Study 2 monitored Hb and Hct levels of the 18 male and 19 female members of the 1978 Commonwealth Games Swimming Teams during maintenance training before competition. Weekly variations were observed during hard training before competition. Weekly variations were observed during hard training in study 1. Reduced workload and iron supplementations appeared to increase Hb and Hct levels in most athletes. It was concluded that Hb and Hct screening is a feasible and beneficial support service in the preparation of elite swimmers for competition. For a limited number of individuals, more extensive services are required.

150. DONOHUE, S. A simple technique for measuring maximum aerobic capacity and its relation to state of training. M.S. in the Theory of Coaching, 1979. (N. F. Lavoie) Trained (N = 20) and untrained (N = 20) Ss, ranging in age from 18 to 42 yrs, participated in the study. Ss who accumulated over 50 Cooper Points per wk were considered to be trained. Ventilation characteristics were used to measure aerobic capacity. Trained Ss had a sig greater mean level of max aerobic capacity than untrained Ss. Max aerobic power values correlated sig with max aerobic capacity values, and max aerobic power and the participant's age had a sig greater r than max aerobic capacity and age. There was no evidence that the max aerobic capacity test was any less efficient than the max aerobic power test for separating out levels of training, but the former was much

easier to administer. Since max aerobic capacity was less related to age than max aerobic power, it may be a better test for evaluating a person's state of training.

151. FIORINI, A. M. The relationship of pre-game arousal assessments to self-perceived performance competencies in male collegiate basketball players. M.A. in the Theory of Coaching, 1978. (B. S. Rushall)

The technique of self-reporting was used to examine the relationship of pre-competition arousal symptoms to specific grades of performance. 4 dependent variables were observed for 11 male varsity basketball players. Each S reported his pre-game arousal symptoms, excitedness level, his estimation of winning, and a post-game assessment of his performance for each game. Data were inspected to determine 1) the existence of any patterns of arousal symptoms that were performance specific, 2) arousal (excitedness)-performance relationships, 3) estimation of winning-performance relationships, and 4) arousal (excitedness)-estimation of winning relationships. Patterns of arousal that were performance specific were exhibited by the more competent, experienced members of the starting lineup. Inexperienced players, substitutes, and players of lower ability levels generally did not exhibit such consistencies. No obvious results were obtained for the other relationships.

152. KLAVORA, B. The effect of various leg positions at the catch on the force of the rowing stroke. M.S. in the Theory of Coaching, 1978. (B. S. Rushall)

To test, in isolation, various leg and body movements in the rowing action and to relate them to forces created on the oar handle, this study used 4 senior oarsmen. The independent variables were 4 knee angles at the catch with hip flexion maximized at each. The dependent variable was the max force exerted on each trial. An intra-subject ABAB exp design was used. Four random sequences of the 3 exp conditions were determined and each S was tested on all 4 testing orders. ANOVA revealed no sig diff in force magnitudes between the 4 treatments but the interaction between days and subjects was sig. S's performances varied considerably from day to day, and also from trial to trial. All Ss displayed difficulty in stabilizing their performances under all treatment conditions.

153. McDONALD, C. E. The effects of concentric and eccentric contractions on strength, retention, and bilateral transfer. M.S. in the Theory of Coaching, 1978. (T. M. Song)

The effects of 2 different strength training methods (concentric and eccentric) on strength, retention, and bilateral transfer were examined. Ss were 22 male volunteers, aged 16 to 17. Ss were randomly assigned to 1 of 2 treatment groups and to exercise the left or right elbow flexor-extensors. Following a preliminary training and safety period, Ss were pre-tested for static flexion and extension, dynamic flexion and extension at multiple angles of 90, 105, 120, and 135 degrees. Groups alternated each wk training 3 alternate days while the other trained twice. Both groups performed 3 x 6 RM at a velocity of 7.2 RPMs. The non-trained arm remained in a standardized position during all situations. Ss were assessed at the beginning of a 6 wk training program, at the end of training, and after a 4 wk retention period. ANOVA (alpha = .05) indicated: a) both training methods improved static and dynamic strength, b) a sig diff among test angles, c) specificity between static and dynamic testing procedures, d) a wide range of response among Ss, e) eccentric tension was greater than concentric or isometric tension, f) no diff between training methods, g) no loss in strength after 4 wks of detraining, h) no sig bilateral transfer, and i) the trained arm was superior to the non-trained arm.

154. NELSON, M. R. The prediction of world records in athletics and swimming by a time-series analysis. M.S. in the Theory of Coaching, 1979. (B. S. Rushall)

In this study world records in swimming and athletics were analyzed to relate the time of their occurrence to their magnitude in order to predict future record performances. Records were considered from 1945 or the earliest date after 1945, to 1977 and subjected to a time-series analysis (Box-Jenkins method) to determine predicted values for 1978 through 1984. Predictions and their confidence limits were developed for all events. A 5% error rate was considered as the widest acceptable degree of error. Only track events fell within this criterion range and therefore, contained adequate predictions. Swimming and field events were mainly unacceptable in light of the predictions which were made. Several variables affecting predictions were discussed. The prediction of world record performance trends in swimming, track, and field was found to be unsatisfactory when world records served as source data.

LOUISIANA STATE UNIVERSITY (Jack K. Nelson)
BATON ROUGE, LOUISIANA

155. CARTER, David R. The influence of various physiological responses on ratings of perceived exertion before and after training. Ph.D. in Physical Education, 1978, 116 p. (J. K. Nelson)

Ratings of perceived exertion (RPE) were recorded at 30 sec intervals while the Ss (N=12) pedalled on a bicycle ergometer for 6 min. Individual work loads were established by a PWC 180 test. The following physiological measures were taken at each 30 sec interval: HR; VO_2 in l/min and ml/kg/min; VCO_2 in l/min and ml/kg/min; RQ; and OXP. 2 min after the work bout, a 6 cc blood sample was taken from the anticubital vein for LA, Na and K+ concentrations. After the initial test, individualized bycycle training programs were prescribed 10 min/day, 3 days/wk for 5 wks. After training, the same physiological measures and RPE were taken under identical conditions as in the initial test. Split-plot ANOVA revealed that RPE, HR, and RQ significantly decreased from intial to final tests. VO_2, VCO_2, and OXP sig increased through training and LA and Na concentrations decreased. Stepwise multiple regressions were computed for the 1st and and 3 min of exercise in the initial and final tests. It was found that training altered the relative contribution of the various physiological measures in predicting RPE.

156. DAUGHDRILL, Kimberly C. A developmental study of causal attributions and future expectations in children's athletics. M.S. in Physical Education, 1978, 146 p. (J. R. Thomas)

Children of 3 age groups, 8 (N=105), 10 (N=103), and 12 (N=104) who were participating in a summer softball program were subdivided into categories of male and female, consistent winners and consistent losers, and current outcome of the contest. Upon completion of a game, questionnaires pertaining to both team and individual attributions and future expectations were distributed to the Ss. MANOVA and ANOVA techniques were applied to the data. Among the findings were that older females generally attributed winning to external factors and losing to internal factors and had low expectations for success. Consistently losing situations also had a more detrimental effect on older females than older males as to future expectations. 8 yr olds evidenced a logical information processing deficit as past experience appeared to be less influential with regard to future expectations. In general, the children tended to adopt self-serving strategies when causally attributing outcome to themselves, whereas, a logical information-processing approach was asopted when attributing the team outcome.

157. DICKENS, William I. Effects of prehydration with selected liquids upon exercise in a hot and humid environment. Ed.D. in Physical Education, 1978, 107 p. (M. J. Broussard)

University football players (N=16) were tested 4 times on a bicycle ergometer at a workload of 720 kpm/min under conditions of 90°F and 85% relative humidity. 10 min prior to the prehydration exercise bouts, the S drank either Quickkick, water, or milk (1 oz per 20 lbs body weight). The Ss were also tested without prehydration. The order of testing was counterbalanced. Each workout continued until a criterion HR of 170 bpm was reached. The S was then removed from the exercise room and rested for 10 min, during which time HR was monitored and an equal amount of liquid was consumed as before. After the rest period, the S exercised again under the same conditions until 170 HR was reached. HR was then monitored for 15 min after exercise. A factorial ANOVA was employed to compare the 3 prehydration liquids and control on time to reach 170 HR. HRs in both recovery periods were also analyzed. Prehydration was found to increase exercise time. Quickkick and water were equally effective as prehydration liquids. Although milk was not quite as effective, no subjective reports of nausea or discomfort were evidenced. Prehydration did not affect recovery rates.

158. DYER, Glenn A. Measurement of the anaerobic power of high school basketball players. M.S. in Physical Education, 1978, 34 p. (J. K. Nelson)

Male basketball players (N=59) from 5 large SHS in New Orleans were tested on the vertical jump and reach. The time from take off to the highest point reached was measured electronically. A reliability coefficient of .99 was computed by intraclass R. Multiple regression to predict power for basketball players from the variables of distance jumped and body wt produced the formula P(kgM/sec) = 2.48 (Distance, cm) + 1.88 (wt, kb) - 131.91. *r* between power scores and coaches' ability ratings ranged from .69 to .95. The *r* between winning % of the 5 teams and team anaerobic power scores was .70.

159. MOULDS, Elizabeth E. Selected physiological measures of arousal of high- and low-trait-anxiety females during competition. Ed.D. in Physical Education, 1978, 107 p. (E. G. Hall)

Relationships between physiological measures of arousal (BSR, EMG, and HR) and phychological measures (SAI and SCAT) were determined for female Ss classified as high-trait-anxious (n=15) and low-trait-anxious (n=15). The physiological measures were taken 5 min before and while each S was competing in a video game task against a common, superior opponent. The SAI was given prior to competition and immediately after losing the game. The SCAT was given 1, 2, or 3 days prior to competition and immediately prior to competition. The game consisted of 2 phases, slow and fast speed. In general, the r's between physiological and psychological measures of arousal were low. MANOVA and ANOVA revealed no sig diff ($p < .05$) between high and low trait anxiety Ss in the 3 physiological measures. High trait anxious Ss scored sig higher than low-anxious Ss on both the SCAT and SAI. The results of the study supported the concepts of response-specificity, response stereotypes, and stimulus-response specificity during a competitive situation.

160. SMITH, Harryet R. Influence of sensory modality and task similarity of the interpolated learning on retroactive inhibition. Ph.D. in Physical Education, 1978, 68 p. (J. K. Nelson)

College male volunteers (N=120) were given a maze learning task under conditions of auditory feedback. Ss were then randomly assigned to 1 of 4 groups: the control group received no interpolated learning and was retested 24 hr later under the same conditions. 1 group practiced on the same maze but with visual feedback. A third group practiced on a reversed maze with auditory feedback; and the fourth group practiced on a reversed maze with visual feedback. Ss in the 3 exp groups were retested on the original task after the interpolated learning. ANCOVA and orthogonal comparisons were employed in the analysis of data. The use of a different (mirror reversal) maze in the interpolated learning produced sig retroactive inhibition. The use of a different sensory modality did not adversely affect retention. The classical paradigm for retroactive inhibition in verbal learning was shown to have application for motor learning. Support was also found for the hypothesis of separate storage channels for short-term memory in motor learning.

MARQUETTE UNIVERSITY (R. Schmidlein)
MILWAUKEE, WISCONSIN

161. WEISBERG, Patricia H. Conceptual analysis of leisure - implications for education. Ed.D. in Curriculum and Instruction, 1978, 234 p. (R. Schmidlein)

This study explores the semantics of leisure, terminology, and concepts. The traditional work ethic as an obsolete value in the post-industrialized society is examined and the processes of social change which affected the value changes are analyzed. The social institution of education as the transmitter of the cultural values is identified as a change agent which is in need of in-depth study to assess its accountability in achieving the purpose identified as "Worthy Use of Leisure." The new "leisure ethic" and its implications are analyzed in relation to emerging educational processes and patterns of Open Classroom and Community Education. The potentials of each structure are reviewed in terms of capacity to transmit a "leisure ethic value." The effectiveness of each in facilitating change from a producer/consumer societal model to a self-motivated learning society is explored. The study suggests future explorations which may be indicated, current issues and conflicts in education for leisure and leisure education.

MEMPHIS STATE UNIVERSITY (Michael Hamrick)
MEMPHIS, TENNESSEE

162. MOORE, C. H. Effect of arthritis on functional capacity: Results of comparisons between arthritis patients and controls in daily activity performance and wage earning ability. M.S. in Community Health, 1977, 73 p. (Michael Hamrick)

163. WATSON, S. D. The development of a proficiency examination for the introductory personal health course at Memphis State University. M.Ed. in School Health, 1976, 147 p. (Michael Hamrick)

MIDDLE TENNESSEE STATE UNIVERSITY (G. Penny)
MURFREESBORO, TENNESSEE

164. BRYAN, Ellen J. The effects of selected instructional aids and devices on the improvement of fundamental volleyball skills. Doctor of Arts in Physical Education, 1978, 106 p. (G. Reeder)

51 male and female students randomly assigned to 3 VB classes were used to study the effects of traditional instruction, (group III), traditional instruction supplemented with instructional aids , (group I), and traditional instruction supplemented by instructional devides, (group II) on VB skills. Pre and posttest scores on the Cunningham and Garrison High Wall Volley Test, the AAHPER Passing Test, and Set-up Test, and Sandefur Spiking Test on the 3 groups were analyzed through the use of a series of 4 ANOVA's. Sig diff between

the 3 groups was revealed in passing ability. Scheffe's test revealed the sig diff existed between group II and group III. A test within groups on pre and posttest scores revealed sig skill improvement for the 3 instructional methods.

165. DAVIS, Danny R. The effects of yellow, orange, and white baseballs upon the visual perception and hitting effectiveness of college baseball players. Doctor of Arts in Physical Education, 1978, 101p. (A. Solomon)
5 varsity baseball players and 15 non-baseball college males served as Ss to investigate the effects of yellow, orange, and white baseballs on visual perception and hitting effectiveness. After administering a color blindness test to establish normal color perception of the Ss, all Ss watched 10 pitches of each color baseball thrown by an experienced college batting-practice pitcher. All Ss ranked the colors from the most visually perceptive to the least visually perceptible. Utilizing a 16 mm movie camera set at 500 frames/sec., each varsity baseball player was filmed swinging at 30 pitches of each color over a period of 3 trials on 3 separate days. Effectiveness of hitting the different color baseballs was determined by comparing a velocity of ball leaving the bat to the velocity at which the ball was thrown. ANOVA revealed no sig diff at the .05 in the hitting effectiveness of the Ss when batting either yellor, orange, or white baseballs. Friedman's 2 way ANOVA computed for color preference between the ranks of non-baseball players and baseball players revealed no statistical difference although a trend favoring the yellow and orange ball was noted in the students' rankings.

166. PARKS, Janet B. Physical education: The profession an introductory course. Doctor of Arts Degree, 1978, 239 p. (G. Reeder)
An undergraduate professional orientation course designed to involve the student in an examination of articles selected from the JOHPER and Physical Educator between 1930 and 1977. Appropriate articles related to 6 facets: objectives of PE, ELE school PE, secondary school PE, competitive athletics, adapted PE, and alternative career opportunities were evaluated by 2 professional physical educators. An instructor's manual and student syllabus were developed.

167. SPANN, William M. A competency-based therapeutic recreation leadership program for selected orthopedic disabilities. Doctor of Arts in Physical Education, 1978, 301 p. (P. McClellan)

A questionnaire consisting of 59 competency statements and 8 demographic items was utilized to identify a hierarchy for competencies for the development of a competency-based contract modules for recreation leaders who would be working with orthopedically handicapped individuals. 63 trained therapeutic recreation leaders rated the 59 competencies according to its importance for professional functioning. The most essential competencies as rated by the therapeutic recreation leaders were used to develop 9 contract modules for first year field experiences in therapeutic recreation.

168. STRATTON, Omega J. A survey of the physical education teachers' professional preparation, available facilities, and activities included in the adapted physical education programs in the AAA secondary schools of the state of Tennessee. Doctor of Arts in Physical Education, 1978, 75 p. (M. Whaley)
78 adapted PE teachers responded to a questionnaire to investigate adapted PE programs in AAA private and public secondary schools in TN in terms of: professional preparation, facilities, and program activities. The questionnaire responses revealed that the majority of adapted PE teachers were adequately prepared to teach the adapted PE students. The facilities available are inadequate for present adapted programs. There were no special programs of activities for the adapted student.

169. WOOD, Samuel. A survey of the attitudes of day camp directions. Doctor of Arts, 1978, 55 p. (S. Hall)
A check list type of questionnaire with several open-ended questions was sent to 50 Day Camp directors to ascertain attitudes concerning day camp objectives, types of programs, administrative methods, staff selection, and training. The questionnaire responses were used to develop a day camp manual of operation. It was concluded that increasing social skills was the main objective of Day Camps. Aquatics was the most popular day camp activity and inservice training was determined to be the best method of training camp staff.

MONTCLAIR STATE COLLEGE (R. Arnold)
UPPER MONTCLAIR, NEW JERSEY

170. CAPOBIANCO, A. M. Relationships between success in selected situations in tennis and the outcome of competition. M.A. in Physical Education, 1978, 55 p. (R. K. Arnold)
Support was provided for success in selected situations and

its relationship to the outcome of competition. The study evaluated the relationship between the following hypotheses: winning the 5th point in a game (when tied at 30-30), and winning the game; winning the 7th game in a set (when tied 3-3), and winning the set; winning the 2nd set (creating a 1-1 tied situation), and winning the match. Ss were amateur and professional men and women tennis players who participated in the singles matches at the 1977 US Tennis Open Tournament. The analysis included 96 women's matches and 115 mens' matches. All matches analyzed were the best of 3 sets. A descriptive analysis was used and the results divided into 3 categories: men and women combined, men's results, and women's results. Frequency with which games, sets, and matches were won or lost following success in the selected tied situations were evaluated through X^2 analyses. The results of this study clearly indicated that for situations in a competitive tennis match in which the probability of winning is .50, there exists a relationship between winning the crucial point, game, or set in breaking the tied situation and winning the game, set, and match respectively. The 1st 2 hypotheses were strongly supported. The 3rd was partially supported.

171. DE CARO, B. Perception of female sport involvement among mothers of high school age girls. M.A. in Physical Education, 1977, 68 p. (J. Schleede)
Analysis of related literature indicated possible attitudinal diffs toward intensive athletic competition between mothers of athletic daughters and mothers of non-athletic daughters, and between each group of mothers and their daughters. A random sample was selected from the general female school population and the athletic female school population (N=175 mothers and 206 daughters). All mothers were administered a questionnaire containing the McGee Attitude Scale, biographical data sheet, and specific sport attitude data sheet. The daughters received a questionnaire containing only the biographical data sheet and the specific sport data sheet. ANOVA and X^2 were used to compare responses. Variables compared were age, educational experience, athletic experience, specific sport attitude, and no. of daughters. Results supported the prediction that mothers of female athletes view competition more favorably than mothers of non-athletes. Attitudes of mothers did not differ sig from those of their daughters. Attitudes of mothers toward intensive athletic competition of an individual nature vs. team nature did not differ sig from their daughters. Attitudes of mothers were not affected by any variables tested except

educational experience.

172. MACAULAY, M. F. A descriptive analysis of student activity patterns in high school and middle school physical education classes. M.A. in Physical Education, 1979, 80 p. (R. K. Arnold)

Diffs in behavior patterns were found to exist between male and female students in coeducational PE classes on the MS and HS levels. Exp groups consisting of 45 MS males, 45 MS females, 45 HS males, and 45 HS females from 5 MSs and 5 HSs (total n = 180) were observed and their behaviors categorized according to Laubach's BESTPED. Descriptive analysis of Ss' behavior quantified amounts of time in sec Ss spent in substantive movement, substantive nonmovement, and nonsubstantive activity of any kind. Results obtained through ANOVA with 3 separate measures supported the prediction that female students of both types of school spend sig less time in substantive movement (F = 4.570) and sig greater time in nonsubstantive activity (F = 2.835) than males in the same classes. No sig main effect existed for either type of school or interaction of sex and type of school.

173. WHITEHEAD, M. A comparison of three starting positions from first base in women's softball. M.A. in Physical Education, 1978, 91 p. (R. K. Arnold)

Judgement of pitch release and running speed were affected by starting position. Ss were female, varsity softball players (N = 36) from 3 NJ SHS, each coached in 1 of 3 techniques: side-, stride-, or rocking-start position. Taking their cue from the pitcher, each S ran from 1st to 2nd base using each of the 3 positions. Frequency of early starts, RT, response time (RST), and MT were recorded. X^2 revealed the fewest early starts occurred with the side and rocking positions ($p < .05$). ANOVA, used to evaluate the time measures, showed the shortest RT was achieved with the stride start; RST was shortest for the side and stride starts, while the consistently shortest MT resulted from the rocking start ($p < .05$). The rocking start was found to be the safest for not leaving the base early and produced the fastest running speed. However, the long RT resulted in longer times from the release of the pitch than the other 2 positions produced.

NORTH CAROLINA CENTRAL UNIVERSITY (Ross E. Townes)
DURHAM, NORTH CAROLINA

174. MORRIS, Cynthia S. Comparative study of the development of flexibility in three physical education

programs. M.S. in Physical Education, 1978, 52 p.
(R. E. Townes)

The sample consisted of 43 Ss participating in 3 PE programs at Duke University, Durham, NC during the 1977-78 school yr. 7 flexibility tests were administered before and after a 14 wk period. The 3 samples participated in trampoline and floor exercise program, gymnastic apparatus program, and a non-gymnastic program. It was found the Ss enrolled in the trampoline and floor exercise program improved more than the Ss in the non-gymnastic program, as did the Ss in the gymnastic apparatus program. Ss who participated in the trampoline and floor exercise program, and the gymnastic apparatus program were more flexible after 14 wks than Ss participating in the non-gymnastic program.

175. PERRY, Robert T. The effects of overlearning on the retention of the stabliometer skill. M.S. in Physical Education, 1978, 48 p. (Ronald Brown)

The sample consisted of 24 severe and moderate retardees age 21-27 at the Community Habilitation Division at Murdoch Center, Butner, NC. The sample was divided into 3 groups and the learning criterion of 12 secs on-balance out of a 30 sec trial was selected. Ss were required to balance successfully for 12 secs within the 30 sec trial on the pre-test. Retention was measured using absolute recall, relearning, and savings score. A retention test was given 2 wks after the initial test. A ANOVA was used to compute diffs between groups. No sig diff between the groups was revealed, however all groups improved 50% in savings score.

176. PERRY, Willie L. Factors influencing male high school athletes perception of the occupational opportunities for professional athletes. M.S. in Physical Education, 1978, 66 p. (Ronald Brown)

The sample consisted of 93 male HS athletes participating in interscholastic athletics at Hillside and Durham High Schools in Durham, NC during the spring semester 1978. The Athletic Involvement Inventory was administered to the Ss. It was found that the lower the participant's social class, the more likely he will feel that there are more occupational opportunities for professional athletes than for other professionals, and vice versa. It was also found that male athletes taking college preparatory courses and planning to attend a 4 yr college are likely to say there are less opportunities for professional athletes than for other professionals.

177. RODGERS, Larry W. *Validity and reliability of the Dayton Sensory Motor Awareness Survey*. M.S. in Physical Education, 1978, 56 p. (R. E. Townes)
The sample consisted of 95 kindergarten pulils age 5 enrolled at the Lakeview Elementary School, Durham County, NC. Test-retest reliability of the survey was estimated to be .75 for the same testers, .64 for different testers, and .70 for the combined sample. The relationship between the adjusted test-retest scores of the combined sample was sig ($p < .01$). Validity of the survey was determined by establishing normative and a clinical group from the 95 Ss. The standard error of the difference between the mean scores of the 2 groups on the 1st administration of the survey was 1.26 and the *t* value was 3.573 which was sig ($p < .01$). It was concluded that the survey held promise as a valid and reliable assessment tool for use with 5 yr old kindergarten children.

178. THIGPEN, Betty A. *The movement need priorities of handicapped versus normal children*. M.S. in Recreation, 1978, 62 p.
The Teacher Priorities of PE Needs Questionnaire was administered to 5 samples of K-6 teachers, principals, physical educators, and special educators in Durham County Elementary Schools, and REC therapists at Murdoch Center, Butner, NC. The ANOV and multiple *t*-test was used to analyze the data. It was found that the educators, as a group, did not diff sig in their responses to body image and play-game skills as movement need priorities for the children they served, however the responses of the educators varied for all other movement need priorities. Movement need priorities were sig in self-concepts, gross motor skills, eye-hand coordination, physical fitness, energy release, cognitive aspects, balance, rhythm, and posture.

NORTH TEXAS STATE UNIVERSITY (Robert W. Patton)
DENTON, TEXAS

179. AVERY, Cathy A. *The establishment of norms for two selected tennis skills tests at North Texas State University*. M.S. in Physical Education, 1978, 124 p. (P. Richardson)
The purposes of this study were to establish validity and reliability for a modified service test, to determine male and female norms for the service test for beginning and intermediate tennis players, and to establish norms for the *Kemp-Vincent Rally Test* for beginning and intermediate tennis players. Ss were 677 students enrolled in beginning

and intermediate tennis classes at NTSU, Denton, Texas. Test-retest data for 78 beginning and 74 intermediate tennis players were analyzed by an ANOVA with repeated measures, to establish reliability for the modified service test. Norms were established for the 2 skills tests by converting the raw scores to normalized standard t-scores. Conclusions of the investigation were: the modified service test is valid and reliable, the establishment of separate male and female norms for the service test is appropriate since the skill is governed by strength, and combining scores from males and females to establish norms for the Kemp-Vincent Rally Test is appropriate since the skill is governed by internal and external timing and the ability to control the placement of the ball.

180. COOPER, Melisa L. Chronic changes in joint flexibility associated with aerobic dance instruction of college age females. M.S. in Physical Education, 1978, 83 p. (R. Patton)
Determination was made if 3 selected aerobic dance related conditions would result in chronic alterations of flexibility of college women. Also, comparison of flexibility measures of college age females during a semester of aerobic dance instruction was undertaken. Ss were 63 college women enrolled in aerobic dance, bowling, and archery classes. 8 flexibility measures were obtained during the 3rd and 11th wks of the exp period. Data were anlyzed by a factor analysis, the Pearson Product Moment r, and 8 analyses of covariance. Conclusions of the investigation were: a program of aerobic dance alone is not sufficient to promote flexibility, and supplemental flexibility activities of 10 min duration used with aerobic dance training are beneficial in increasing hip flexion.

181. COX, Pamela S. A cinematographic comparison of two long-hang kip techniques on the horizontal bar. M.S. in Physical Education, 1978, 52 p. (R. Patton)
Cinematography was used to determine diffs in velocity, acceleration, moments of force, and body centers of gravity in 4 diff positions of 2 techniques of the long-hang kip. 3 female gymnasts were filmed performing 5 attempts of each technique. Technique A was the traditional method of performing the long-hang kip in which there is an arch in the lower back at the end of the foward swing and there is an approximate shoulder angle of 180° or more. Technique B was the newer method where there is no arch in the lower back and there is an approximate shoulder angle of 90° or less. 3

USGF rated judges scored the kips, and due to inability to distinguish between the 2 techniques, 2 Ss were eliminated. The analysis revealed that the major diffs occurred in the swing extension with technique B producing more velocity and a higher center of gravity throughout the movement. It was concluded that technique B was more desirable for this gymnast.

182. GOOD, Willis E. A study of the predisposition for mycobacterium kansasii infections in Dallas and Tarrant Counties due to "influenza-like" infections. M.S. (Health Education), 1978, 55 p. (B. Gray)

The problem of this study was to review within Dallas and Tarrant Counties the relationship between an "influenza-like" illness within 6 mo prior to contracting Mycobacterium Kansasii disease. An interview instrument was developed and used during personal interviews to collect data. Additional data of case rates and reported cases was compiled from local and national governmental public health agencies. Analysis of the data indicated no sig relationship between an individual contracting an "influenza-like" illness within 6 months prior to the acquiring of Mycobacterium kansasii disease. Therefore, there is no relationship between having had "influenza-like" symptoms within 6 mo of contracting Mycobacteria kansasii.

183. HEMSELL, Joyce H. A comparison of three selected exercises in building abdominal strength and endurance in upper elementary school girls. M.S. in Physical Education, 1978, 59 p. (R. Patton)

This study was undertaken to determine whether a short exercise period 3 times a wk for 8 wks can increase abdominal strength and endurance in upper ELE school girls, which of 3 exercises might prove most effective, and if an exercise with a greater intensity in muscle action would show the greater improvement in building abdominal strength and endurance. The exercises selected in ascending order of muscle action intensity as previously reported were the curl-up, conventional hook sit-up, and modified sit-up. 99 Ss were randomly divided into 4 groups. An exercise was assigned to each of the 3 groups. The 4th group did mild generalized exercises and served as the control group. Data were obtained from pre and posttests on a cable tensiometer and timed sit-ups. 2 ANCOVAs were used to determine if a sig diff existed between the groups. The group performing the conventional hook sit-up showed a sig gain in both abdominal strength and endurance. The modified hook sit-up which has the highest intensity rating was not sig effective ($p < .05$).

184. KETTERER, Patti. The effects of three conditions involving active or passive observers upon performance of college females on a volleyball overhand serve test. M.S. in Physical Education, 1978, 105 p. (I. Caton)
The effects of social facilitation by college females on the AAHPER volleyball serve test was determined. Classmates passively observed, actively observed, or the instructor observed. It was determined which audience was most facilitatory to the performance of high, medium, or low skilled beginners. Conclusions of the investigation were: beginners perform better with active than passive observers present; highly skilled beginners perform better with active observers than the instructor only present; medium skilled beginners perform better with active observers and the instructor only present than with passive observers present; and low skilled beginners showed no significant difference in performance between conditions.

185. MILLER, Diane M. A survey of intramural sports programs for high school students in the four largest metropolitan school districts in Texas. M.S. in Recreation Administration, 1978, 61 p. (D. Bailey)
Determination if intramural sports programs are available to SHS students in the 4 largest metropolitan school districts in TX was the purpose of the study. Additionally, reasons why schools may not offer intramural programs was determined. Questionnaires were mailed to 84 HS in the Dallas, Fort Worth, Houston, and San Antonio Independent School Districts. Responses of the survey were analyzed in comparison tables. Data obtained from this survey revealed that a majority of the responding schools do not sponsor intramural sports programs for their students. The factors cited most often as the reasons for not sponsoring intramural programs were lack of facilities, inadequate no. of personnel, lack of transportation, and conflict with interscholastic sports. PE teachers direct the programs in a majority of the responding schools indicating that they do sponsor intramural programs for their students.

186. RAPP, David M. Attitudes of Texas secondary school curriculum administrators toward education for leisure. M.S. in Health, Physical Education, and Recreation, 1978, 97 p. (D. Bailey)
Curriculum administrators' attitude toward education for leisure were surveyed. The Ss were 100 randomly sampled

administrators. The X^2 was used to determine the sig of the diff in the descriptive data requested related to each survey question. Conclusions were that Ss expressed an agreeable attitude toward educating for leisure.

187. RAYBURN, Susan L. An evaluation of the Denton County Safety Education Program in Denton, Texas. M.S. in Health Education, 1978, 75 p. (B. Gray)
The effectiveness of the Denton County Safety Education Program was assessed. Ss were 117 driving-while-intoxicated offenders who completed this alcohol reeducation program between June 1975 and June 1976. Questionnaires were used as evaluative measures. Data were analyzed in 3 steps: 2 ANOVAs with 1 repeated measure; 2 Pearson product moment r's; and a Fisher's Z test. Conclusions of the investigation were that both problem and non-problem drinkers benefited from the program; change of attitude was an important factor in reducing recidivism; and the program was successful in meeting its goals as a means of influencing drinking and driving behavior.

188. REED, Rebecca L. The influence of psychological stress and personality upon athletic performance of intercollegiate tennis players. M.S. in Physical Education, 1978, 113 p. (P. Richardson)
This investigation was designed to study coach and self-appraised groupings of intercollegiate tennis players who yield to stress and withstand stress and to determine if personality diffs existed between groups. 75 male and female intercollegiate tennis players from 10 universities in TX were Ss. A 39 statement stress inventory developed by the investigator and the Cattell 16 PF were instruments utilized in this study. Data were subjected to hierarchical profile-groupings, ANOVA, and r analysis. Conclusions of the study were that intercollegiate tennis players and male and female players respond to stress differently; intercollegiate tennis players and male and female players who experience diff levels of stress have diff personalities; and players and coaches do not evaluate the ability to cope with stress similarly.

NORTHEAST MISSOURI STATE UNIVERSITY (L. Boleach)
KIRKSVILLE, MISSOURI

189. BRANSCOM, Dixie L. Energy cost and oxygen requirement of running in trained and untrained males and females. M.A. in Physical Education, 1977, 72 p. (J. L. Mayhew)

VO_2 and energy cost of running was determined by open circuit spirometry in trained and untrained males and females during treadmill running at 4 speeds. 7 male (TRM) and 6 female (TRF) university cross-country runners were compared by ANOVA with 7 untrained males (UTM) and 5 females (UTF) on standard metabolic parameters. UTM and UTF had sig greater ventilation volumes at all speeds than TRM and TRF. UTM had sig greater respiratory exchange ratios and Kcal/km than UTF, TRM, or TRF. There was no sig diff in VO_2 in ml/kg/min between the groups. The overall equation for VO_2 from running speed was: VO_2 (ml/kg/min) = .1894 (Speed, m/min) + 3.88 ($\underline{r}$ = .756, SEE^2 = 2.8 ml).

190. CRAIN, Michael L. The relationship of brachial pulse wave components and predicted VO_2 max to running performance. M.A. in Physical Education, 1977, 57 p. (J. L. Mayhew)

23 male runners (age = 28.35 ± 9.81 yrs) were measured for body composition (BC) and cardiovascular (CV) parameters prior to a 4.4 m road race. LBM and % fat were predicted from skinfolds. Brachial pulse waves were measured using a high-speed recorder instead of the traditional method. VO_2 max was predicted from a submax bicycle ergometer ride. None of the brachial pulse wave measures were sig related to run time. Predicted VO_2 max was moderately but sig related to run time ($\underline{r}$ = -.57). Multiple regression analysis produced equations using BC, CV, and training variables to predict run time (R's = .79 - .87). Endurance running is evidently a total body involvement with training information manifesting some physiological expression not measured in laboratory tests.

191. DARRAH, Richard E. The relationship of biorhythms to grip strength. M.A. in Physical Education, 1978, 59 p. (L. Boleach)

36 volunteer college students (f=17, m=19) served as Ss. Grip was recorded 3 times on each of the 1st, 6th, 11th, and 17th days of 2 consecutive physical cycles. Average, adjusted, and maximum values were recorded. Data were arranged in various 8 x 36 (days x Ss) factorial designs. An ANOVA (Scheffe) was used to determine diffs. Grip strength demonstrated patterns similar to the physical biorhythm cycle. Only the max values recorded for day 1 and day 17 of the 2nd cycle were diff ($\underline{p}$ < .10). The biorhythm theory was not substantiated.

192. ETHERIDGE, Gil L. The prediction of maximal oxygen

intake of healthy untrained college females. M.A. in Physical Education, 1977, 80 p. (J. L. Mayhew)
1 6-min submaximal bicycle ergometer ride was used to predict VO_2 max in 77 untrained college females (age = 19.60 ± 4.25). HR was recorded during the 4th - 6th mins of the ride. VO_2 max was determined by open circuit spirometry using an all-out resistance-incremented ride. Skinfolds were taken to predict % fat. Leg volume (LV) was measured by water displacement. The best predictor of VO_2 max was HR during the 6th min (HR-6) of submax ride (r = .62, SEE = 196 ml). Multiple regression analysis produced R = .68 (SEE = 185 ml) using HR-6, LV, and %fat. A submax ergometer ride does not appear as effective in estimating VO_2 max in untrained females as has been reported for males.

193. FARWELL, Richard R. The influence of task specificity on the relationship between predicted maximal oxygen intake and running performance. M.A. in Physical Education, 1978, 128 p. (J. L. Mayhew)
70 females and 50 males were assessed for predicted VO_2 max by 3 methods of ergometry. The Astrand-Ryhming bicycle ergometer (ARB) and bench-step test (ARS) and the Bruce treadmill test (BT) were administered to each S over a 2-wk period. Ss performed an all-out 12-min run in small groups on an indoor track. Test-retest reliability r for ARB, ARS, BT, and run were .35, .82, .93, and .80 in males and .60, .81, .98, and .96 in females, respectively. The r between prediction method and run increased the more specific the test task was to the performance. BT was more closely related to run in females (r = .68) than in males (r = .52). Multiple regression analysis using body composition variables failed to increase the predictive accuracy for estimating run distance. Test task specificity improves the predictive accuracy of estimating running performance.

194. FROST, Lawrence P. Effects of weight training, flexibility training, and combined weight training-flexibility training on strength, speed, and agility. M.A. in Physical Education, 1977, 70 p. (J. L. Mayhew)
The effect of wt training (WT), a flexibility program (F), and combined wt training and flexibility (WF) on speed and agility was evaluated. 34 male Ss were randomly assigned to groups to undergo training twice wkly for 10 wks. WT exercises were knee extensions, flexions, and leg presses. The F group consisted of 2 sets of 5 static stretching exercises. WF performed 1 set of flexibility exercises preceding WT and 1 set following. ANOVA for diff scores

showed WT and WF made sig gains in leg strength. WF was sig superior for developing 40-yd dash speed and agility than either method performed separately.

195. GLASS, Charles W. *The influence of an outdoor recreation course on the attitudes of high school students toward outdoor related activities*. M.A. in Physical Education, 1977, 54 p. (L. Boleach)

31 exp Ss were enrolled in an outdoor recreation block at Kirksville (MO) SHS while 30 control Ss were enrolled in general PE classes. Each subsample was stratified according to sex and domicile (e.g., city, rural). An attitude scale was constructed using the Likert technique. It included items in 5 categories - outdoor education, camping and orienteering, environmental awareness, hunter safety, and aesthetic sensitivity (test-retest $r = .86$). Pre- and posttests were analyzed using t-tests and an ANOVA (Scheffe). Pre-test comparisons indicated that sex had no bearing on outdoor attitudes ($p < .05$) while diffs were observed for domicile ($p < .05$). The outdoor education course had no effect ($p < .05$) on attitudes.

196. HOLMES, Jane A. *The relationship of somatotype and body composition to swimming strokes and distances*. M.A. in Physical Education, 1977, 114 p. (J. L. Mayhew)

70 male HS swimmers were measured at the MO State Championship meet to determine body composition and somatotype. LBM and %fat were determined by the Katch and Michael formula for teenaged males. Somatotype was determined by the Heath-Carter method. No sig diffs in body composition and somatotype were found across 8 events. Across 4 100-yd strokes, breast-strokers were sig greater in wt and %fat than the other swimmers. Across 4 freestyle events (50 - 500 yds) there were no sig diffs. Individual event swimmers had sig greater wt and LBM than relay swimmers. Success in HS swimming at the championship level appears due to the degree of training rather than body type or composition.

197. TURNBALL, David M. *Comparison of religiosity of athletes and non-athletes*. M.A. in Physical Education, 1978, 114 p. (L. Boleach)

The religiosity of 95 college athletes (m=62, f=33) and 59 college non-athletes (m=30, f=29) was compared. The athlete sub-sample was proportionally stratified according to participation. Sub-groups classified by sex and participation were also compared. 13 dimensions of religiosity were observed. Individual and group scores were determined for each dimension. T-tests and an ANOVA (Scheffe) were applied to the data. Females were more religious ($p \angle .05$) than males in 9 dimensions - creedal assent, church attendance, financial support, religious despair, growth and striving, salience: behavior, salience: cognition, the active regulars, and purpose of life: positive. Athletes were more religious than non-athletes ($p \angle .05$) in 3 dimensions - creedal assent, devotionalism, and salience: cognition. An ANOVA (sex X participation) yielded no sig diff in any of the 13 dimensions for either sex.

NORTHEASTERN UNIVERSITY (K. Tuttgers)
BOSTON-BOUVE COLLEGE, BOSTON, MASS

198. ALALOUF, Barbara L. The relationship between music therapy and selected behaviors among psychiatric patients. M.S. in Recreation and Leisure Studies, 1978, 62 p. (A.bert McCay)

199. BROAD, Muriel A. An analysis of the long-range objectives of supervised field experience students in the department of recreation and leisure studies at Boston-Bouve College. M.S. in Recreation and Leisure Studies, 1978, 42 p. (Albert McCay)

200. DAVIS, June M. Development of a program to reintegrate the institutionalized elderly into community recreation programs. M.S. in Recreation and Leisure Studies, 1978, 43 p. (Frank Robinson)

201. EBB, Roberta E. Effects of a movement program on the self-concept of subjects from a public housing facility for the elderly. M.S. in Recreation and Leisure Studies, 1978, 44 p. (Alae-Eldin Sayed)

202. ESTES, Albert T., Jr. Attitudes towards physical education of students in grades 10, 11, and 12 at Somerset High School. M.S. in Physical Education, 1978, 37 p. (Richard Zobel)

203. FREEMAN, Margo M. An annotated bibliography of aquatic books. M.S. in Recreation and Leisure Studies, 1978, 34 p. (Sylvia Dawson)

204. HASTINGS, Linda B. E. Therapeutic recreation planning for the nursing home activities directors. M.S. in

Recreation and Leisure Studies, 1978, 178 p. (Frank Robinson)

205. HEWITT, Rudy A. The role of black football players at Massachusetts College: A longitudinal application of the theory of centrality. M.S. in Physical Education, 1978, 44 p. (Robert Curtin)

206. MACIEJEWSKI, Corinne D. The development of an outdoor recreation program as part of the physical education curriculum for Needham Senior High School. M.S. in Recreation and Leisure Studies, 1978, 79 p. (George Atkinson)

207. MILLER, Barbara A. A study of children's perceptions toward the elderly. M.S. in Physical Education, 1978, 61 p. (H. Marie Garrity)

208. MUSSMACHER, Joan. A survey of the recreational interests of two and four year female college students in Vermont. M.S. in Recreation and Leisure Studies, 1978, 87 p. (Alae-Eldin Sayed)

209. O'GARA, Elaine J. Effects of a dance therapy program on the self-concept of adult psychiatric patients. M.S. in Recreation and Leisure Studies, 1978, 35 p. (Alae-Eldin Sayed)

210. RICKARD, Karen J. A study of the influence of income and education on preferences of outdoor leisure time pursuits. M.S. in Recreation and Leisure Studies, 1978, 113 p. (Peter Graham)

211. ST. PIERRE, Barbara. A comparative analysis of individual and group therapeutic recreation treatment on adults hospitalized for physical disabilities. M.S. in Recreation and Leisure Studies, 1978, 48 p. (Richard Morrison)

212. SCHMONSEES, Susan J. Art activity and anxiety education. M.S. in Recreation and Leisure Studies, 1978, 66 p. (Richard Morrison)

213. RICE, Milton. Eccentric and concentric progressive resistance exercise for the development of strength. M.S. in Physical Education, 1978, 92 p. (Carl Christensen)

THE OHIO STATE UNIVERSITY (Barbara Nelson)
COLUMBUS, OHIO

214. BROWN, Joe B. A comparison of the governance structure of the physical education and athletic programs of selected predominantly black and white NCAA division II colleges and universities. 1978. (L. Hess)

215. CARROLL, Ronald S. A rationale for developing improved recreation progrpms in suburban communities. 1978. (C. Mand)

216. CHASS, Baruch. An analysis of perceptions differences between athletes, representatives, USOC's executive board members, and olympic coaches with regard to USOC's role in the olympic effort. 1978. (L. Hess)

217. CRAMER, Carolyn. The effects of a cooperating teacher training program in applied behavior analysis on teacher behaviors of secondary physical education student teachers. 1977. (D. Siedentop)

218. DUDLEY, Gary. Absorption and work performance as effected by rehydration. 1978, 98 p. (D. Mathews)

219. FLECK, Steven. Varying frequency and intensity of isokinetic strength training. 1978, 112 p. (R. Bartels)

220. HAHN, Dale. The effects of three selected review programs on the ability of adults to retain cardio-pulmonary resuscitation skills taught by the American Heart Association. 1977, 202 p. (M. Beyrer)

221. HALL, Linda. Anthropometric estimations of body density of women athletes in selected varsity athletic activities. 1977. (R. Bartels)

222. McKENZIE, James. The preparedness of the public school districts of Ohio with regard to emergency care programs for ill and injured students. 1977, 245 p. (M. Beyrer)

223. Mc PEAK, Clifford. Effects of an interval training program on aerobic, anaerobic, and anthropometric parameters on women. 1977, 179 p. (D. Mathews)

224. MECHIKOFF, Robert. *The politicalization of the XXI Olympiad*. 1977. (B. Nelson)

225. OGUNBIYI, Daniel. *The development of Nigeria's participation in international sport competition and its effects on the nation*. 1978, 341 p. (B. Bennett)

226. OTTO, Robert. *Metabolic responses of young females to program of training and maintenance detraining*. 1977. (E. Fox)

227. PASSMORE, Barbara. *Assertiveness of women intercollegiate athletes*. 1977. (B. Nelson)

228. PHILLIPS, Donna. *Development of a competency-based instructional system for teaching and coaching badminton*. 1977. (D. Siedentop)

229. QUARTEMAN, Jerome. *A descriptive analysis of physical education teaching in the elementary school*. 1977. (D. Siedentop)

230. STAFFO, Donald. *An analysis of the efforts and procedures of the New York state public schools to provide equal opportunity in interscholastic events*. 1978. (L. Hess)

231. STEVENS, Carol. *Circulatory adjustments of females to training and detraining*. 1977. (E. Fox)

232. SWITCHENKO, Daniel. *Evaluating two and five day per week isokinetic strength training at varying intensities*. 1978. (E. Fox)

OKLAHOMA STATE UNIVERSITY (Aix B. Harrison)
STILLWATER, OKLAHOMA

233. REAMS, Curtis. *The effects of the 23 day and 28 day biorhythm cycles on human performance*. Ed.D. in Physical Education, 1978, 108 p. (Aix B. Harrison)

30 college males served as Ss. 23 and 28 day biorhythm charts were prepared for each S. Performance tests were administered 2 times, once when both cycles were in the high phase and once when both cycles were in the low phase. Tests used were hand steadiness, manipulative dexterity, reaction time, grip strength, long jump, muscular endurance, and max VO_2. *t*-tests revealed no sig diff (p .05) between performances during the high and low phases.

234. SCHOLLMEIER, Terry. Evaluation of the pounds off program at Oral Roberts University. M.S., 1978, 39 p. (Aix B. Harrison)

The effectiveness of the pounds off program at Oral Roberts University during the Fall Semester, 1976, was evaluated. 13 males with body fat over 25% were required participants. Tests administered included skinfold %, underwater weighing, vital capacity, and max VO_2. Ss participated in a 5 day per wk aerobics class for 16 wks along with a voluntary diet program. There was a sig gain in max VO_2 as determined by the Bruce Treadmill test. There were no sig changes in wt or % body fat. It was concluded that for this semester the program was not effective.

235. THOMPSON, Maryann. A study of the relationship between lateral preference and the performance of a selected bimanual dexterity skill. Ed.D., 1978, 63 p. (Betty Abercrombie)

Determinations of the difference between performance scores on a timed bead stringing test attained by 4 year olds was undertaken. The Ss were grouped as follows: consistent lateral preference, crossed lateral preference, mixed or no preference. 45 4 year olds were assigned to 1 of the groups according to 2 tests of eye preference and 4 tests of hand preference. A 30 sec bead stringing test was given to each S. ANOV revealed no sig diff ($p < .05$) between groups on the bead stringing test.

236. YOUNGBERG, Linda. Prediction of body density in preadolescent girls. M.S., 1978, 46 p. (Aix B. Harrison)

A regression equation to predict body density in preadolescent girls from anthropometric measures was developed. 25 anthropometric measures, skinfolds, diameters and girths, were taken on 51 5th grade girls._ Underwater weighing was used to determine body density. $\bar{X}$ body density was 1.053, % body fat 19.54. The following equation gave a multiple R of .877. Body density = .000785293 (sum of mid axillary, abdominal, and supra illiac skinfolds) + .08479. Supra illiac skinfold alone correlated .87 with % body fat.

STANFORD UNIVERSITY (J. E. Nixon)
STANFORD, CALIFORNIA

237. HOLM, Lynda L. An experimental study of the effects of a collegial evaluation program on the attitudes of physical education teachers and interns. Ph.D. in

Education, 1978, 261 p. (S. M. Dornbusch)
This study analyzes the attitudinal changes that took place after PE teachers and interns (n=30) experienced a Collegial (peer) Evaluation Program (CEP), in contrast to attitudinal changes that took place among teachers and interns (n=31) not participating in the 10 wk program but teaching in the same environment. The teachers and interns in both exp and control groups were given a teacher attitude questionnaire twice: once at the beginning, pre-CEP, and the other at the end, post-CEP. The data from the questionnaires were analyzed using ANOVA on the diff scores, and _t_-tests of the diffs between related means. Teachers and interns were observed as they completed various steps in the CEP. By closely examining the participants and the process they were involved in, the study provides evidence of the possibilities and problems when CE is used to try to improve the evaluation of teachers. Compared to the control group, the CEP participants knew better the criteria by which they were being evaluated, knew better the evaluations of their performances, and were more frequently observed by their CE partner. They also perceived that their evaluations were more soundly based and thought the evaluations they received from CE partners were more important. The qualitative findings supported the quantitative results and also showed that CEP participants felt that the Program was more beneficial than the formal evaluation system. Teachers' perception of their feedback as more soundly based was not the product of receiving only positive evaluations. The CEP did work to improve the use of evaluative feedback from colleagues. But problems remain for implementation in the current school system.

THE PENNSYLVANIA STATE UNIVERSITY (Karl G. Stoedefalke)
UNIVERSITY PARK, PENNSYLVANIA

238. BERKOWITZ, Marvin S. _Effects of varying rest intervals between sets on the acquisition of muscular strength_. M.S. in Physical Education, 1978, 50 p. (C. A. Morehouse)
Ss trained for a period of 10 wks with the bench press exercise. Group 1 (n=17) rested 30 sec between sets of exercises. Group 2 (n=18) rested 2.5 min between each set. Group 3 (n=21) had a rest interval of 8 min between sets. Each group performed 3 sets of 6 repetitions on the bench press exercise 3 days per wk on alternate days. The 1 repetition-max bench press exercise was used to evaluate strength. Strength tests were administered to all Ss before the training period, immediately following a Christmas recess, and at 2-1/2 wk

intervals during the investigation. The test scores were subjected to a 2-factor ANOVA test with repeated measures on 1 factor. Within-group and between group comparisons were made to determine if there were any sig diffs among test means and rest interval groups. The results of this investigation were: each of the 3 rest interval groups experienced sig increases in strength; there were no sig diffs in strength development among the 3 rest interval groups; and increases in strength by each rest interval group between successive tests was statistically sig ($p < .01$). It was concluded that similar gains in strength occur when the rest interval between sets is 30 sec, 2.5 min, or 8 min, if the training groups perform the same total no. of repetitions each wk.

239. BRILLA, Lorraine R. Effects of a 10-week physical conditioning program on plasma high- and low-density lipoproetin cholesterol concentrations in young women. M.S. in Physical Education, 1978, 58 p. (J. Mendez)

17 women, ages 18-24, volunteered to participate in a physical conditioning program. 2 dropped out due to lack of time. Baseline measures were made on the women before initiation and at the termination of the program. Variables assessed included resting HR, max VO_2, % body fat, fasting plasma glucose, cholesterol, triglyceride, and high-density lipoprotein cholesterol. Blood analyses were also determined at wks 3 and 5 during the program. Low-density lipoprotein cholesterol was estimated from the measures of cholesterol triglyceride, and high-density lipoprotein cholesterol. The program consisted of 3 1-hr sessions per wk. The first 10 mins of each session consisted of stretching exercises to serve as a warm-up. Then, walk-jog bouts were undertaken at 70-85% of each individual's max HR. Walking gradually gave way to jogging until each individual was able to complete 4 miles during a session at the end of the program. Each session concluded with a 5-min cool-down period of calisthenics. Variables showed the following modifications: resting HR and % body fat were not changed ($p < .05$) and max VO_2 demonstrated a sig increase ($p < .001$). Sig decreases were evidenced in the glucose concentration ($p < .05$), as well as the triglyceride concentration ($p < .025$). The cholesterol concentration and the high-density and low-density lipoprotein cholesterol concentrations did not change sig ($p < .05$). It was concluded that a physical conditioning program of such short duration does not sig alter high-density and low-density lipoprotein cholesterol concentrations.

240. BRUNKE, Jerilyn E. Self-esteem and the United States Youth Conservation Corps enrollee. M.S. in Recreation and Parks, 1978, 94 p. (B. van der Smissen)
The program measure was a Youth Conservation Corps (YCC) 8-wk summer camp (1977) program at a camp in PA. The YCC is funded by the federal government through the DEPT of Agriculture and the Forest Service. The participants are paid to work on public land taking part in environmental improvement projects. Also in the program are weekend and evening activities which include backpacking, work-learn projects, campcraft, swimming, and hiking. 4 parts of the Rosenberg Inventory were used as the measure of self-esteem, in accord with the purposes of the YCC program: self-esteem, self-development, social skills in a working situation with adults and peers, and social skills in a social situation with adults and peers. The Inventory was administered to the 30 participants in the first and last week of the 8-wk exp. Analysis of pre- and post-session measures produced the following findings with regard to self-esteem, self-development, and social skills: no sig change observed for the total group; no sig change among enrollees when grouped according to age, sex, or size of home community. Based upon these findings and within the limitations of this study, the following conclusions were reached: participation in a U.S. YCC program does not alter self-esteem, self-development, or social skills; and there is no diff among enrollees regarding these factors when grouped by age, sex, or size of home community.

241. BUMP, Linda A. Locus of control, competitive anxiety, and level of aspiration in children. M.S. in Physical Education, 1978, 58 p. (D. V. Harris)
Using 53 5th-grade students (30 female, 23 male) at a middle-class school in Saugerties, NY, the interaction between locus of control and the variables of competitive anxiety and level of aspiration was studied. The Nowicki-Strickland Locus of Control Scale, the Sport Competitive Anxiety Test, and a target throwing task were used to assess each variable, respectively. By 1-way ANOVA, it was concluded that those rating high in internality had lower competitive anxiety levels. No diffs based on internality were found with level of aspiration or types of shift in aspiration. A X^2 was utilized to analyze type of shift. Level of aspiration was found to decrease as anxiety level increased by Pearson r analysis. Sex diffs were not found with respect to locus of control or competitive anxiety. Males appeared to have higher levels of aspiration than females. Data were

analyzed by 3 independent 1-way ANOVAs. It was concluded that the 3 variables were related.

242. BURSKI, Michael J. A biomechanical comparison of male and female distance runners. M.S. in Physical Education, 1978, 50 p. (R. C. Nelson)
9 male and 4 female members of PSU's Cross Country Teams and 5 women distance runners participating in an Olympic development camp were filmed at 200 frames per sec, while running outdoors, between Dec. 1975 and May 1977, at 4 separate velocities, ranging from 4.1 m/sec to 8.1 m/sec. The films were developed and analyzed across 11 diff variables. ANOVA for repeated measures showed sig diffs ($p < .05$) for the variables of stride length, relative stride length, stride rate, stride time, time support, phase 2 of support, and take-off angle of the center of gravity. Male runners had greater stride lengths, shorter relative stride lengths, lower stride rates, greater stride times, greater support times, and greater phase 2 of support times than female runners. No diffs between groups were found for the variables of non-support time, angle of the lower leg at contact, phase 1 of support, and displacement of the center of gravity. All runners increased velocity by increasing both stride length and frequency. Stride length played the greater part at slower velocities, and stride length played the greater part at higher velocities. As velocity increased, stride times, non-support time, phase 2 of support, and support time all decreased. Angle of the lower leg at contact, displacement of the center of gravity, phase 1 of support, and take-off angle of the center of gravity all remained relatively constant across the 4 velocities for the 2 groups. Relative stride length increased with increasing velocities for both groups. It was concluded that women have sig diff running biomechanics than male runners.

243. CAPEK, Cynthia N. Current fees and charges policies practices for the economically disadvantaged in Pennsylvania community recreation and parks departments. M.S. in Recreation and Parks, 1978, 94 p. (F. Guadagnolo)
A mail questionnaire was used to examine overall fee-charging policies and practices for public swimming pools, adult softball leagues, and operational budgets. 79 of the 97 administrators who participated between Oct. and Nov. 1977 had acceptable returns. The % of disadvantaged persons (those with an income less than or equal to poverty level) was determined by the investigator, using 1970 U.S. census

data. Data dealing with overall policies were tabulated and presented by calculated frequencies. Using X^2, fee-charging practices were compared to the % of disadvantaged. Pearson r were employed to test relationships concerning poverty levels and the budget. t tests were employed to test relationships involving answers to policy questions, poverty levels, and the budget. It was found that few fees and charges policies exist in PA DEPTS which aid the disadvantaged with regard to REC services. Also, when fees and charges practices were examined, it appeared that, regardless of the no. of economically disadvantaged in the community, little recognition is made of this population with respect to these policies.

244. CARSON, Mary L. A case study examining school administrators' attitudes toward community education as it relates to recreation in four rural counties of Pennsylvania. M.S. in Recreation and Parks, 1979, 127p. (G. C. Godbey)

14 superintendents, 14 school board presidents, and 14 secondary school principals in the public, secondary schools of Cameron, Elk, McKean, and Potter Counties participated in the study. Methods involved personal interviews with each administrator (n=42) and the completion of an activity checklist for each of the 14 school districts. 6 hypotheses were generated and tested using the .05 level of sig. Findings indicated that administrators' attitudes toward community education were not sig related to the extent of optional programs that were held in their schools. Principals were found to agree more with the concept, although there was not enough variability to produce statistically sig results. There was no sig diff in the feasibility of implementing the concept between the 3 groups. The variable age is not a sig indicator in determining the degree to which administrators express their consent. Findings analyzed by descriptive statistics included: the mean score for agreement with the concept for all administrators was 81.9%, 92.8% strongly agreed that the school facilities should be used for REC purposes; the greatest obstacle to community education development was the misuse of buildings; the group using the school the least were those 65 and over; auditoriums were the most readily available facility; and weekday evenings were the most common usage periods.

245. DEAN, Marleen A. Attitudes of elected officials and recreation workers in third-class cities toward the provision of recreation services for the disadvantaged.

M.S. in Recreation and Parks, 1979, 92 p. (P. Farrell) It was hypothesized that, when compared to REC workers, elected officials would express sig less favorable attitudes toward the provision of REC services for the disadvantaged in the subcategories of: identification of the disadvantaged as a special population; program planning and providing leadership; developing, designing, and maintaining facilities; and funding for the disadvantaged. The investigator devised a Likert-type attitude inventory from a review of the literature and brainstorming techniques with 3 colleagues who helped to identify areas of concern in relation to REC services and the disadvantaged. 76 attitude statements were pilot-tested on 12 PA boroughs comparable in size to the study population. A Likert Scale Analysis was used to refine the instrument and establish an adjusted item-total coefficient statement score. The 10 highest item-total scores in each subcategory were chosen for the final instrument, which consisted of 40 attitude statements and a background questionnaire. The final instrument was mailed to 48 elected officials and 48 REC workers in the 3rd-class cities in PA. Participants were given 2 wks to respond. A 2nd questionnaire was sent to those Ss who had not responded; and a telephone call was made to each of these Ss by the investigator to initiate further response. Responses were coded and analyzed by the IBM 370 computer at PSU's Computation Center. Results of the independent t test indicated no sig diffs in the attitudes of elected officials and REC workers in the 3rd-class cities toward the provision of REC services for the disadvantaged, but REC workers tended to score higher in each of the 4 subcategories.

246. DRESSLER, Jeffrey L. The status of recreation in the Community Living Arrangement movement for the mentally retarded in Pennsylvania. M.S. in Recreation and Parks, 1978, 182 p. (H. M. Lundegren)
A Community Living Arrangement (CLA) Program Profile, consisting of questions dealing with budgetary concerns of the agency and the resident relative to REC facilitation, agency policy towards REC, the use of REC resources both internal and generic, CLA agency programming for REC, and a rationale for providing REC services for the mentally retarded (MR) was developed, along with a semantic differential attitude scale to measure attitudes of supervisors toward "REC." Following a pilot study, a final instrument was mailed to 103 supervisors of CLA provider agencies in PA; 57 responded. Comparisons were made between supervisors of urban and rural CLAs, supervisors who perceive themselves as having an urban

or rural upbringing, male and female supervisors, supervisors of adult vs adult-adolescent-child CLA programs, and supervisors of apartment vs group-home CLA programs. Independent t tests were used to compare the means for each of 15 bipolar adjective pairs for the semantic differential. Findings indicated that REC services for the MR were provided in the areas of arts and crafts, fine arts, sports, outdoor REC, social amusement, and hobbies, with degree of provision fluctuating from little provision (fine arts) to much provision (sports and social amusement). Generally, leadership was provided by CLA staff who were not trained in the area of REC. Supervisors' attitudes were usually positive, but they were divided as to whether they saw REC as therapy or an end in itself. Rural supervisors stressed the medical model, and urban supervisors a humanistic approach.

247. DUCK, Thomas A. A mathematical model of a gymnast on the horizontal bar. Ph.D. in Physical Education, 1978, 158 p. (R. C. Nelson and P. R. Cavanagh)

To develop and validate a predictive mathematical model of hinged, 3-segment, rigid body, planar motion as representative of a gymnast performing on the horizontal bar, a 3-segment model consisting of the upper limbs, head and trunk, and lower limbs hinged at the "shoulder" and "hips" was used. Equations of motion were developed through application of Newtonian mechanics to the 3-segment model. The resulting system of equations was reduced to a single equation of motion which was solved numerically predicting the angular motion of the 1st segment (upper limbs), given the angular motion of the "shoulder" and "hip" joints. The predicted path of the total body center of gravity was also calculated. Separate computer programs were developed to predict and validate the model against known movements and to predict the path of a theoretical movement. Validation trials were conducted using 4 experienced gymnasts executing a beat swing, ordinary grip giant circle, reverse grip giant circle, and glide kip up. Evaluation of the reduced data showed that the absolute mean diff between the measured and predicted angle of the upper limbs with respect to a vertical for 16 trials was 12.98° over a mean simulation interval of 1.42 sec.

248. ELLIOTT, Dianna L. Attitude change toward the environment and toward outdoor education of counselor-teachers in a resident outdoor education program. M.S. in Recreation and Parks, 1978, 161 p. (B. van der Smissen)

An instrument was developed to measure attitude changes of college student teacher-counselors toward the environment and outdoor education (The Environmental/Outdoor Education Response Inventory). A modified Wolin's Degree of Certainty Scale and a Likert Scale were used in combination. Statements from an initial list of 200 were piloted twice, and reduced to 50. Students in college courses providing opportunities for outdoor leadership exp were asked to complete the Inventory at the beginning and end of Spring Term 1977; students who participated as teacher-counselors completed the Inventory after a wk-long exp at the PSU Stone Valley Outdoor School, working with children in the outdoors. Stone Valley participants initially had more positive attitudes than other students, but still showed sig positive changes in attitude. Students who had no leadership exp during the term and those who had a leadership exp other than as a counselor-teacher showed no sig attitude changes. Initially, RcPk majors had more positive attitudes than Educ majors. After the Outdoor School exp, both groups showed positive attitude changes. Students with previous outdoor leadership exp were more likely to participate in the teacher-counselor program. Attitudes of teacher-counselors with 10 or fewer wks of previous outdoor leadership exp changed; those with more than 10 wks' exp did not undergo sig attitude changes. It was concluded that exp as a teacher-counselor in the Outdoor School program results in positive attitude changes toward the environment and outdoor education.

249. FLICK, James W. The attitudes of elderly individuals participating in community-sponsored recreation programs toward leisure. M.S. in Recreation and Parks, 1978, 92 p. (H. M. Lundegren)

303 Ss, age 62+, participating in community-sponsored REC programs, completed the Leisure Attitude Assessment for the Elderly (LAAE), consisting of 3 subscales designed to elicit leisure attitude in terms of: inclination toward leisure, society's role in leisure planning; and self-definition through leisure. The LAAE was devised for this study. Attitude scores were analyzed by a Likert scale. All but 3% of the sample indicated an attitude toward leisure that was higher than the expected mean. Percentile scores are provided for the study population, as are high/low contrast groups (both of which scored above the expected mean). The LAAE was considered an adequate measure of attitude toward leisure (29 of 30 items showed sig adjusted item-total r and the alpha coefficient index of reliability was .87). r among subscales ranged from .51 to .55, demonstrating a certain amount of overlap in concepts measured on subscales.

ANOVA was used to test for sig relationships between dichotomized groupings for each of 9 demographic variables and attitude score: sex, age, education, employment during adulthood, former occupational status, reason for retirement, no. of yrs retired, current marital status, and health status. Sig relationships ($p < .05$) were found to exist in 5 areas. A more favorable attitude toward leisure was indicated by: those age $<$ 75 than by those $\geq$ 75; those educated behond the Grade-8 level than by less educated; those whose former occupational status was classified as white collar than by those classified as blue collar; those who are currently married than by those currently not married; and those in fair or better health than by those who have a health status of less than fair.

250. FUNK, James F. A comparison of physical fitness levels of athletes and non-athletes in a selected intermediate school in New Jersey. M.Ed. in Physical Education, 1978, 48 p. (L. I. Magnusson)

To compare physical fitness levels of 7th- and 8-th grade athletes with non-athletes 199 boys were tested. An athlete was one who participated in interscholastic sports, and a non-athlete was one who did not participate in any organized athletics. Fitness levels in this study were determined by scores on the 6 test items of the AAHPER Youth Fitness Test. The fitness test was administered to both groups at the beginning of their 7th-grade yr and again at the end of 8th grade. Comparisons were made between athletes (n=94) and non-athletes (n=105), using their 7th-grade fitness scores and also using their 8th-grade scores. Within-group comparisons were made for each group by comparing the initial test scores with the final test scores. The Behrens-Fisher *t* test was used to compare the 2 groups. Sig diffs were found on all 6 test items between athletes and non-athletes at both the 7th- and 8th-grade levels. These diffs showed that the athletes scored higher than the non-athletes. The within-group comparisons were made using Fisher's Matched-Pairs *t* test. Positive sig diffs at the .05 level were found within both groups between the initial test and the final test scores.

251. GOGGIN, Noreen L. Simple, choice, and fractionated reaction time as a function of movement precision. M.S. in Physical Education, 1978, 73 p. (R. W. Christina)

Henry's (1960) hypothesis that reaction time (RT) increases with increased task complexity was tested by determining how target diameter would affect simple and choice RT. Another problem was to determine which component of the RT would be affected by target diameter by fractionating the RT. In the RT task, the S's response was to move a stylus from a center rest position to contact the appropriate target as quickly as possible after the stimulus signal appeared. 4 groups of 13 male and female college students performed 16 practice and 32 test trials in 1 out of 4 conditions: small target, choice RT; large target, choice RT; small target, simple RT; and large target, simple RT. The data were analyzed using a 2 x 2 x 2 (target diameter x reaction time paradigm x direction) ANOVA. The results indicated that for both simple and choice RT, the RTs for movements to contact the small target were sig longer than the RTs for movements to contact the large target. The premotor time analysis showed similar results. Motor time, movement time, and error rate were affected by target diameter; for movements to contact the small target, the motor time and movement time were longer and the error rate was higher than for movements to contact the large target.

252. HANNEGAN, Susan B. A comparison of physical campsite designs preferred by travel trailer and motor home campers for camping trips of varying length. M.S. in Recreation and Parks, 1978, 142 p. (M. L. Christiansen)
The objective of this study was to identify and compare ideal campsite designs for overnight, short stay, and wk-long camping trips. As a subproblem, an instrument was developed by which to identify campers' preferences for an ideal physical arrangement of activity centers and support facilities at a campsite. The instrument was comprised of a questionnaire and 2- and 3-dimensional scale models of campground facilities, personal camping equipment, and campsite support facilities. The instrument was piloted to tent campers and REC vehicle campers and later administered to members of 4 family camping organizations in Central PA. The results of the study indicated that: as the length of stay at a campsite increased, so did the campsite activity areas and the no. of support facilities; travel trailer campers preferred a larger mean campsite activity area for all camping trips; the majority of campers preferred pull-through parking, and preferences were similar for the physical arrangement of camping equipment and support facilities.

253. HARING, David A. Change in attitudes toward four selected environmental issues of enrolees in two eight-week Youth Conservation Corps camps. M.S. in

Recreation and Parks, 1978, 103 p. (B. van der Smissen)

The attitudes of 44 enrolees (25 males, 19 females), ages 15-18, participating in the 1977 Youth Conservation Corps (YCC), toward 4 selected environmental issues were assessed using the Method of Ordered Alternatives. For each of the 4 issues, the enrollee were asked to indicate which of the 7 statements concerning the issue were acceptable and which were objectionable to them. The statements represented the entire range of viewpoints (from least to most ecological) concerning the following issues: renewable vs nonrenewable resource use; the concern for man vs the concern for things other than man; needs vs wants; and economic vs ecological factors in decision-making situations. It was concluded that the YCC program has no effect on the mean environmental sttitudes of the enrollees, although the data indicated that from slightly more than 1/2 to slightly more than 1/4 of the enrollees did accept and/or reject different statements at the end of the session. These changes were generally symmetrical around the original mean choice, and, therefore, no sig changes occurred in the mean responses. The data were analyzed by frequency distribution, %, and t tests for the general population, as well as for the subgroups of sex, age, and camp attended.

254. HYNER, Gerald C. An analysis of selected consumers' sttitudes toward prepaid health care, existing medical care delivery system, and personal health maintenance. Ph.D. in Health Education, 1979, 228 p. (R. St. Pierre and R. Shute)

1,221 Ss (22.7% faculty; 77.3% undergraduate students), primarily from Old Dominion University, Norfolk, VA, responded to an instrument developed for this study to characterize the relationship between satisfaction with medical services, prepaid medical care as a viable alternative, and attitudes toward personal HE maintenance. Factors which predisposed consumers to use medical care services were also assessed. Sample data were compared to a national survey. Findings indicated few diffs between faculty and students regarding utilization or attitudinal responses. No relationship between attitudinal responses and personal HE maintenance attitudes was elicited. Data reflected the national study - nearly 70% of the Ss had a private physician; over 60% had a physical examination within 1 yr of the study; and almost 70% had visited a dentist within 1 yr of the study. Dissatisfied consumers of traditional services responded favorably to the prepayment alternative; highly educated consumers were most receptive to that alternative. Females used services more often than males and were more satisfied with current medical care. Individuals with self-assessed low income were less likely to seek regular dental care, but were not deterred from using available medical services. Apparently, a prepayment program would be an acceptable alternative if costs were similar to or less than traditional fee-for-services. HE was seen as an important aspect of the prepaid system.

255. JONES, William V., Jr. The eliciting of athlete attitudes, beliefs, and practices surrounding the use and control of drugs in the sport context. M.S. in Health Education, 1978, 137 p. (R. E. Shute)
A set of instruments which would accurately elicit athlete attitudes, beliefs, and practices related to the use of drugs in the sport context were developed and pilot tested. The data obtained by this study were used only to describe volunteer athletes and to provide a statistical basis for revisions of the pilot instruments, which were developed based on a thorough review of the literature and with the assistance of experts in the fields of drug abuse and sports medicine. The complete pilot instrument package (14 p., 127 items) consisted of a demographic data section, an attitude scale (5 subscales), a belief scale, and a behavior scale. Only the sport drugs, amphetamines and anabolic steroids, and the societal drugs of marijuana and alcohol were examined in this study. 100 pilot instruments were sent to each of 6 NCAA institutions during the Spring of 1977; 212 usable questionnaires were returned for analysis. The analysis procedure led to the deletion of several items on both the attitude and belief scales. The demographic and behavior scales were unchanged. The revised instrument, it was concluded, has sufficient reliability, validity, and versatility to be used for research purposes with a large data base.

256. KEMPF, Marylou. Variations in size of territory exhibited by groups of picnickers in Central Pennsylvania. M.S. in Recreation and Parks, 1978, 89 p.
32 groups of picnickers were examined. Several variables - size of group, length of stay of group, sex composition of group, pleasure score of group, arousal score of group, dominance score of group, satisfaction rating of picnicking experience, and social unit of group (family vs friends) - were combined in a multivariate analysis to predict these variations in the size of territory exhibited by groups of picnickers in central PA. A male and female team interviewed

groups of picnickers between July 23 and October 2, 1977, obtaining each group's spatial preference. 3 variables - length of stay of group, pleasure score of group, and social unit of group - accounted for sig but weak variations in size of territory exhibited by divergent groups of picnickers.

257. KENNEDY, Paul M. The effects of weight training and weight lifting on the balance of fifteen-year-old male high school students. M.S. in Physical Education, 1978, 75 p. (K. G. Stoedefalke)

Male HS students (n=10), 15 yrs, 0 mos, to 15 yrs, 11 mos, were randomly selected from required freshman PE classes. 4 tests of upper and lower body static and dynamic balance were administered to the group following a pilot study with a separate population to determine the reliability and validity levels of the 4 balance tests. The balance pre-testing was followed by a 6-wk training period in which the group participated in individual wt-training programs and Olympic-style wt lifting for a total of 18 sessions. After the training period, the balance tests were administered again. Results indicated improvements in all areas tested. *r*'s were determined between all 4 balance tests and the mean gain scores in upper body strength, lower body strength, and Olympic-style lift total. Of the 12 *r* coefficients determined, all but 3 were shown to be positive and many approached the sig level within the limitations of the study. Illustrative percentile gains were also sig.

258. KING, Karen. An experimental field study in elementary health education methods classes comparing four training procedures on the acquisition of three specifically defined teacher behaviors. Ph.D. in Health Education, 1978, 114 p. (E. E. Hunt and R. E. Shute)

Female students enrolled in 4 sections of a 5-wk ELE HE Methods class (n=84) were randomly assigned (by section) to 1 of 4 exp conditions to determine the influence of 4 instructional strategies (modeling in combination with videotaped self-evaluation; modeling; videotaped self-evaluation; and traditional teaching style) on frequencies of 3 verbal teaching behaviors (redirection; paraphrasing; and general praise). During pre- and post-testing, each S taught a 6-min lesson to 5-6 senior HE majors role-playing as 3rd- and 4th-grade pupils. All microlessons were filmed. Between pre- and post-testing, various treatments were rendered to each group: the modeling group observed 2 filmed models teaching diff ELE HE lessons where the instructor was verbally reinforced each time a target behavior was performed; the group combining modeling and videotaped evaluation saw the same 2 filmed models; the combined and videotaped self-evaluation groups observed their own microlesson tapes; and the traditional teaching group was given teacher-led lectures and discussion opportunities. Within-group analyses were completed by multiple t tests ($p < .005$). Results indicated sig gain scores on redirection and general praise for the modeling-along group and the combined group; on paraphrasing for the combined group; and on redirection for the videotaped self-evaluation group. Between-group analyses for the 3 dependent variables used the multivariate F test ($p < .05$). There was no sig diff between groups. No instructional style had a greater impact on any of the 3 teacher behaviors than did another style.

259. KINTZER, Mary K. Effects of participation in an introductory photography program upon the self-concepts of elderly females in a nursing home. M.S. in Recreation and Parks, 1978, 95 p. (H. M. Lundegren)
The research was conducted at Christ-the-King Manor, a nursing home in PA. The Tennessee Self-Concept Scale (TSCS) was administered to all Ss before and after the program. All pre-program total scale scores and sub-scores on the TSCS were compared with those for the post-program administration, utilizing a dependent t test. The findings of this study were: elderly females do not achieve sig more positive self-concepts enrolled in an introductory photography program, although they do become more consistent and integrated in their perceptions of themselves.

260. KORDER, Kenneth H. Factors that influenced male high school athletes to accept a basketball scholarship from a university other than The Pennsylvania State University. M.Ed. in Physical Education, 1978, 66 p. (R. J. Sabock)
A questionnaire and rating scale was developed for the investigation, and a pilot study was conducted to evaluate the questionnaire, using the PSU basketball team. The final instrument contained questions on the personal backgrounds of the Ss, and included 41 factors which might have influenced an athlete to reject a basketball scholarship from PSU. 86 questionnaires were mailed to college athletes who had actively been recruited by the PSU basketball staff while they were HS seniors during the years 1974-1977. 54 questionnaires (62.8%) were completed and returned. The X^2 test was used to analyze the results. 39 of the 41 factors were discovered to be not sig. The 2 sig factors were:

basketball is not the no. 1 sport at PSU, and PSU is known as a football school. Black athletes viewed certain factors significantly differently than did white athletes. The following factors influenced black athletes to reject scholarship offers from PSU: a more lucrative scholarship was offered; PSU has an old and relatively small basketball arena in which to play home games; the lack of minority populations at PSU; PSU is too far from their home; it would be difficult for their friends and relatives to come and see them play; the climate and weather conditions at PSU; the lack of city environment; and the number of blacks/whites on the team.

261. LAFORTUNE, Mario A. A biomechanical analysis of cycling under various shoe-pedal interfaces. M.S. in Physical Education, 1978, 48 p. (P. R. Cavanagh)
16 Ss rode 6 periods of 4 min each, using various combinations of 2 shoe-sole types (rubber and leather) and 3 pedal surfaces (rubber, plastic, and metal). Instruments mounted on the bike monitored force components, pedal and crank angles, and right-top dead center (TDC). Data were collected on-line with a PDP-11/34 Minicomputer. Normal (F_N), tangential (F_T), and resultant (F_{RES}) forces featured a biphasic pattern under the base condition of rubber-soled shoes and plastic pedal surfaces, and peaked at approximately 104° after TDC. F_N (309N) and F_{RES} (317N) were similar in magnitude, but more than 4 times greater than F_T (72N). Both torque and foot angle to the vertical showed a biphasic shape; the max torque value (50.6 Nm) and largest foot angle (95.6°) occurred at 90° in the cycle. The force effectiveness (F_E) was very low (around 0.4) and exhibited a sinusoidal pattern (1 and -1 at 70° and 290°, respectively; 0 at both 185° and 358° in the crank cycle). Use of leather- instead of rubber-soled shoes led to a decrease of the F_T, an increase of peak F_N and F_{RES}, a 39% decrease of torque production at TDC, a 6% increase of negative angular impulse, a 6° increase of the foot angle (the toes are less pointed downward), and an increase of the F_E. Metal pedal surfaces produced sig more F_T and higher torque value at TDC than did rubber pedal surfaces. Plastic pedal surfaces were responsible for higher peak F_T than rubber pedal surfaces, lower F_T and torque values at TDC than metal pedal surfaces. The pedal factor was without effect on the other variables studied. On-line data acquisition and processing were performed. Major findings were very low F_E while bicycle riding, and its decrease with shoes presenting a higher slip resistance (rubber- compared to leather-soled shoes).

262. LODER, Arthur W., Jr. Relationship of camper characteristics and choice of a campground. M.S. in Recreation and Parks, 1978, 135 p. (B. van der Smissen)
4 campgrounds, located in southern NJ's Pine Barrens (3 in Wharton State Forest and 1 privately owned) were selected for the investigation. Ss were members of registered camping parties, over 14 yrs of age, who were on-site at the time of sampling. A Campground Development Evaluation Form was used to rate the degree of development of the campgrounds, which ranged from primitive to highly developed. Assessment of the psychological characteristics of the campers was by a Measure of Arousal-seeking Tendency, Wildernism/Urbanism Scale, Preference for Level of Campground Development Scale, and Preference for Types of Camping Equipment Scale. ANOVA was used to ascertain diffs among the campgrounds on the psychological variables. It was possible to distinguish among campers in campgrounds with diff levels of development. In general, campers who chose a less developed campground were higher in arousal-seeking tendency, more wildernism-oriented, preferred less campground development, and preferred less elaborate camping equipment than campers who chose a more highly developed campground. Campers in the 2 campgrounds ranked in the middle of the development continuum also ranked in-between campers in the anchor campgrounds on their wildernism/urbanism orientation.

263. LONG, Earl, Jr. Creativity levels of educable mentally retarded individuals. M.S. in Recreation and Parks, 1978, 71 p. (H. M. Lundegren)
45 educable mentally retarded (MR) Ss and 42 peiple from the general population completed the Barron-Welsh Art Scale in order to determine creativity levels of these individuals. Ss responded to each of the 86 items in the test by answering either that they liked or did not like the item. A 2-way ANOVA and independent t tests were employed to determine whether the variables (educational classification, age, and sex) were related to creativity scores. No diffs in creativity scores existed between the sex and age groups tested. Therefore, the investigator concluded that the educable MR and people from the general population should be integrated into creative recreational activities.

264. MAZUR, Diane H. College students' perceptions of female physical education majors: The effects of sex-role orientation and attitudes toward women. M.S. in Physical Education, 1979, 68 p. (D. V. Harris)
Sex-role orientation and attitudes toward women, as measured

by the Bem Sex-Role Inventory (BSRI) and Attitudes toward Women Scale (AWS), respectively, were investigated as factors influencing college Ss' perceptions of female PE majors. 2 dimensions of negative stereotypy indicated by previous research were explored: masculinity-femininity and homosexuality-heterosexuality. Ss were 50 male and 50 female PE majors, and 45 male and 50 female non-PE majors; questionnaires were completed during the 1978 Spring Term. Results indicated that women in PE were considered more masculine and more homosexually oriented than college women in general. Partial r coefficients showed sex-role characteristics to be sig related to the dependent measure: BSRI masculinity subscale scores were positively related to degree of negative stereotyping in Ss with conservative attitudes toward women; the variables were inversely related when associated with liberal attitudes. Ss' sex and major field of study did not influence evaluations.

265. McDOUGALL, Diane C. A fitness trail for mentally retarded children at a summer day camp. M.S. in Recreation and Parks, 1979, 126 p. (B. van der Smissen)

A specially designed fitness trail was constructed at a summer day camp for mentally retarded (MR) children, and its effectiveness on the participants' development of physical fitness was assessed. Ss were 16 boys and 6 girls, ages 6-13, who attended a 6-wk day camp during the Summer of 1978. A 1,680-ft trail with 12 exercise stations (warm-up, log lift, sit-up, pull-up, vault, push-up, step-down, leap frog, balance beam, step-up, overhead ladder, and cool-down) was laid out in a loop formation in a completely wooded area. Stations were arranged to alternate use of primary muscle groups and to incorporate unique features of the natural environment. Group 1 participated on the trail for 6 wks; Group 2 for 3 wks; and Group 3 did not use the trail but participated in large-group activities instead. Physical fitness development was measured by the AAHPER Special Fitness Test for the MR in pre-, mid-, and post-tests. Comparison was also made between trail participants and non-participants in their abilities to negotiate a commercial fitness trail (3,585 ft long with 20 stations). Descriptive analyses of the results of 5 of the 7 items in the AAHPER Test battery (flexed arm hang, sit-ups, shuttle run, standing broad jump, and 300-yd run-walk) were given. Findings were: trail users improved more than non-users in the flexed arm hang, but non-users improved more in the standing broad jump; all groups improved in sit-ups; there were fluctuations among all groups in the shuttle run and 300-yd run-walk, and there were no observable diffs in the abilities of trail participants and non-participants to complete the commercial trail. Greater improvements in trail performance were made by Ss participating for 6 wks than by Ss participating for 3 wks.

266. McHUGH, Maura H. The effects of two progressive weight training programs on strength, speed, and power of college females. M.S. in Physical Education, 1979, 85 p. (C. A. Morehouse)

71 female volunteers enrolled in wt-training courses at PSU were assigned, on the basis of initial strength, to 1 of 2 wt-training groups or a control group for an 8-wk study. Group 1 (n=24) performed a progressive resistance wt-training program employing 3 sets of the 6-RM wt 3 times per wk. Group 2 (n=23) performed a progressive speed-training program in which 3 sets of 6 repetitions, using 25% of their 1-RM wts, were performed as rapidly as possible 3 days per wk. The control group (n=24) participated in testing only. The 1-RM bench press was used to measure strength. A similar movement was used for measuring speed (minimal resistance pressed as rapidly as possible) and power (resistance of 50-70% of 1-RM pressed as rapidly as possible). Ss were tested 3 times: before training began; after 4 wks; and at the end of the program. ANOVA techniques revealed that all groups were similar in strength and power prior to training but not in speed. Diffs among groups in final strength and power were determined using 2-factor ANOVA with repeated measures on 1 factor. ANCOVA techniques (to adjust for initial diffs) disclosed diffs among groups in final speed. Scheffe's test showed that only the wt-training groups had sig increases in the 3 variables; no sig diffs between groups were found. Using Pearson Product-Moment r coefficients, no relationship was found among the changes in strength, speed, and power as a result of wt training.

267. MILLER, Kenneth W. An examination of attentional style and selected performance variables of intercollegiate football players. M.S. in Physical Education, 1978, 84 p. (K. G. Stoedefalke)

50 members of a large, Eastern-university football team volunteered as Ss in a study to determine those variables which were sig for successful academic and athletic achievement. Competitive performances were assessed by the coaching staff to determine athletic success: current GPAs served as indicators of academic success. 2 questionnaires - the Test of Attentional and Interpersonal Style (TAIS) and the

State-Trait Anxiety Index (STAI) - were given to the Ss (71% responded). Data were evaluated using 3 discriminant analyses and 4 linear multiple regression *r*'s. Findings indicated: offensive, defensive, and combined offensive/defensive players have different TAIS profile scores than a reference group of undergraduate students; offensive and defensive players have similar TAIS profile scores; using 38 demographic variables with college GPA as the dependent variable, predictors critical to an athlete's academic success (HS GPA, intellectual expression and trait anxiety) can be identified; using the Coaches-Player Assessment Scale (CPAS) as the dependent variable, a multiple regression equation for athletic success (using verbal SAT score, negative affective expression, HS GPA, physical orientation, internal overload, external overload, behavior control, and 40-yd dash as components) can be developed; using only the affective TAIS instrument and the 2 dependent variables, predictors for academic and athletic success can be identified. There was a *r* between CPAS and physical orientation, and a sig *r* between college GPA and intellectual expression.

268. MILLER, Roberta S. *A dermatoglyphic investigation of cleft lip and palate*. M.S. in Health Education, 1978, 73 p. (E. E. Hunt, Jr.)

Dermatoglyphics is a statistical analysis of various epidermal ridge configurations on the palms, fingers, soles, and toes used by medical geneticists to aid in the diagnosis and identification of certain congenital abnormalities (i.e., cleft lip and/or palate). Unfavorable in utero conditions which cause congenital abnormalities often manifest themselves in altered epidermal ridge configurations. This study was undertaken to determine if sig diffs in dermatoglyphic traits could be found between cleft lip and/or palate Ss and a control group. Hand prints of 71 cleft palate and/or lip Ss (collected by Silver, 1966) served as the exp group. The control group consisted of 92 Ss with no indications of cleft malformations. Each S had a complete set of dermatoglyphic prints taken by the Faurot inkless method (Walker, 1957). The dermatoglyphic traits analyzed included: max atd angles, D-line exit configuration types, fingertip pattern intensity index, A and D mainline exit nos., and the A-line, t-d ridge count. Sig diffs between groups were found in several traits: values of max atd angles for left and right hand separately but not together were sig smaller for female clefts only; male Ss showed sig smaller mean values for the 9th finger in the fingertip pattern intensity index; the D-line exit configuration trait yielded no sig findings; both males and females showed slightly sig findings for the A and D mainline exit nos.; female clefts showed lower mean values, while male clefts showed higher mean values. The most outstanding diff between cleft Ss and non-cleft Ss was found in the A-line, t-d ridge count. Results showed sig greater values for all clefted Ss in all cases. It was concluded that a sig diff could be found in at least 1 dermatoglyphic trait of cleft palate and/or lip Ss and their controls.

269. MOURATIDIS, John. Olympic and political philosophy: A Comparison. M.S. in Physical Education, 1978, 89 p. (J. G. Thompson)
This investigation compares the philosophy of the modern Olympic Games with current political philosophies as an alternate method for maintaining world peace. It was hypothesized that, if the nations of the world adhered to the basic principles of Olympism, the unification of mankind would be an attainable goal. Since the modern Olympic Games are an extension of the ancient Greek Games, a portion of this thesis was devoted to ancient Olympics and their impact on Greek society. This study also pointed out the inability of the United Nations and other organizations to function satisfactorily in the quest for world peace while utilizing their current political philosophies. The writer contended that the philosophy of the Olympic Games, complete with its idealistic spirit, was probably the only current belief accepted as being capable of recognizing the importance of international brotherhood. Moreover, by adopting the "fair play" spirit of the Olympic Games, unwise policies and errors fatal to mankind might be avoided.

270. PARKER, Susan J. The effects of conditioning on the hemodynamic responses of middle-aged men during isometric and dynamic work. M.S. in Physical Education, 1978, 136 p. (K. G. Stoedefalke and J. L. Hodgson)
Based on a questionnaire, 26 men (ages 38 to 62) were placed into 1 of 2 groups, active (in conditioning programs for 2 yrs or longer) or sedentary. 7 men (2 active and 5 sedentary) were classified as borderline hypertensive (BP 140/90) and considered as a separate group. Of the normotensive Ss, 9 were considered sedentary and 10 active. Each S performed a progressive treadmill test and a handgrip test at 20% and 50% MVC. No diff in BP responses between active and sedentary men was found at rest or during progressive treadmill work. Resting HR was sig lower for the active than for the sedentary group, 64 and 76 beats/min, respectively. During exercise, the HR response was similar for the 2 groups.

VO_2 max was sig higher for the active group compared to the sedentary group (46.8 and 37.2, respectively). No diff in BP response was found between groups during isometric work. HR at rest and at low duration levels of isometric work was lower for the active than for the sedentary group. This diff may have resulted from an increase in vagal tone which resulted from dynamic conditioning. Although initial resting BPs were greater for the hypertensive groups, the hemodynamic response during dynamic and isometric exercise was similar for both hypertensive and normotensive groups. Whereas the absolute change in BP was similar, the change in systolic pressure expressed as a % change was lower for the hypertensive groups. % change of diastolic pressure was also lower for the hypertensive group during isometric exercise but similar during treadmill work. Compared to their normotensive counterparts, resting HR was higher and VO_2 max lower for both active and sedentary hypertensive groups, suggesting lower fitness levels.

271. PEAKE, Lucinda M. The relationship of sex-role orientation, achievement motivation, and career choice. M.S. in Physical Education, 1978, 100 p. (D. V. Harris)

Male and female English, Engineering, and PE upperclassmen (n=300) were randomly selected. Measures of sex-role orientation and achievement motivation (the Personal Attributes Questionnaire and the Work and Family Orientation Questionnaire, respectively) were administered during the testing session. Analysis of the PAQ indicated that, for females, there was a sig relationship between sex-role orientation and academic major ($p < .05$). The English females were primarily Feminine (40%), the Engineers were Masculine (30%), and the PE females were Androgynous (48%). The males in the 3 career fields did not differ from each other in sex-role orientation. There was a relationship between sex-role orientation and sex among PE majors ($p < .05$). The females were primarily classified as Androgynous (48%), whereas the males were Masculine (42%). A 2 (Sex) x 3 (Major) x 4 (SRO) ANOVA was conducted for each of the 6 subscales of the WOFO. Analysis revealed that females scored higher than males on the Work and Spouse Career Scales ($p < .01$). Androgynous and Masculine females showed a greater amount of Mastery than both the Feminine and Undifferentiated females and the Androgynous and Masculine males. The females, when compared to the males, exhibited sex-role orientations adaptive to their chosen fields, and sig higher motivation for a career.

272. PFAU, Roberta. Relationship of selected background and

self-concept factors to successful student teaching in physical education. M.S. in Physical Education, 1978, 100 p. (J. D. Gallagher)

63 PE student teachers were administered a questionnaire designed to survey stability of collegiate enrollment, previous teaching and coaching experience, professional awareness, and athletic background. Ss also completed the Adjective Check List (ACL) within 3 conditions: as self, as physical educator, and as believed seen by cooperating teacher. Success in teaching was the average rating score submitted by the cooperating and supervising teachers. Ss were classified as High, Low, or Average student teachers. Data were analyzed by X^2, ANOVA, r, and multiple regression techniques. None of the factors identified in the questionnaire were found to be sig related with success in student teaching. On the ACL, Ss tended to show higher scores in self-reference than in the other 2 conditions. Achievement and endurance scored highest in the condition "as seen by cooperating teacher." Low student teachers tended to be low scorers on the ACL, especially within the conditions "as a physical educator" and "as believed seen by cooperating teacher." High student teachers perceived greater feelings of self-confidence and accomplishment. Findings indicated that: Factors of origin of enrollment, change of major, term of transfer, athletic background, previous teaching or coaching experiences, professional awareness, and sex are unrelated to success in student teaching; the reference self-perception of the student differs sig from his self-perception as a PE teacher and from how he sees himself being perceived by others; achievement in student teaching is related to a student's perception of himself as a teacher and of how he sees himself perceived by others; and the reference self-perception is not a predictor of success in student teaching.

273. REID, Gregory D. Overt and covert rehearsal in short-term motor memory of the mentally retarded. Ph.D. in Physical Education, 1978, 158 p. (H. M. Lundegren)

300 right-handed Ss (100 MR adolescents, 100 nonretarded HS students who served as a comparable chronological age (CA) group, and 100 ELE school students who served as a comparable mental age (MA) group) participated in a study to assess short-term motor memory (STMM) by performing on a linear-positioning apparatus, while wearing opaque goggles, under 5 retentive conditions: immediate recall; a 20-sec unfilled interval; a 20-sec interval filled with interpolated mental activity; a 20-sec interval filled with overt rehearsal; and a 20-sec interval filled with simultaneous overt rehearsal

and interpolated mental activity. All initial criterion movements (CM) were preselected. After a specified retention interval, the S was required to replicate the CM. The diff in cm between the CM and the replication movement (RM) was considered to the error score. All Ss received 5 trials. The basic study design was a 3 x 5 x 5 (Groups x Retention Conditions x Trials) factorial with repeated measures on the last factor. Total error was selected as the dependent measure. Results indicated that MR Ss did not engage in spontaneous covert rehearsal of motor information, while nonretarded Ss of comparable MA did so; the STMM of nonretarded Ss was superior to that of retarded Ss when covert rehearsal was possible, but equal to that of retarded Ss when covert rehearsal was not possible; the STMM of nonretarded and retarded Ss was equivalent when they were engaged in overt rehearsal; and overt rehearsal did not facilitate STMM any more than conditions which lacked overt rehearsal or included overt rehearsal and mental activity simultaneously. The results were discussed in relationship to central processing of preselected and constrained movements.

274. RICHARDS, Pamela E. *The knowledge and attitudes of college students on homosexuality*. M.S. in Health Education, 1979, 98 p. (R. E. Shute)

A 44-item true-false Knowledge Test on Homosexuality was developed by the investigator, pilot tested, and evaluated by selected experts on sexuality. 410 questionnaires (including a demographic information page, the Knowledge Test on Homosexuality, the Attitude Scale on Homosexuality, and the Kinsey Heterosexual-Homosexual Rating Scale) were distributed. 385 responses were analyzed using the SPSS to determine basic distributional characteristics of the data and the Likert Attitude Scale Analysis (LIKRT). Subgroupings of Ss were formed, and the Behrens-Fisher *t* test was used to compare mean % scores on the Knowledge Test between groups: the mean was 46.59% for heterosexual women (n=132) and 42.60% for homosexual women (n=17) (t=3.79, df=32.49, $p < .01$); 44.90% for homosexual men (n=16) and 47.97% for heterosexual men (n=160) (t=2.47, df=21.59, $p < .05$). It appears that heterosexuals were more informed about homosexuality than homosexuals, but scores differed by only 1 or 2 questions. A 9-point Likert-type scale was used to evaluate Ss' attitudes on homosexuality. A liberal attitude score (1-4) may range from 28-112; a conservative score (6-9), from 168-252; and a neutral score, from 113-167. The mean score for homosexual women was 36.06 and for heterosexual women, 95.91 (t=16.62, df=148.86, $p < .01$); for homosexual men, 42.80, and for heterosexual men, 125.43 (t=18.69, df=78.65, $p < .01$); for all homosexuals, 39.32, and for all heterosexuals, 111.82 (t=24, df=211.48, $p < .01$). Although the groups differ sig, they are all classified on the liberal end of the scale and differ only in their degree of liberalness.

275. ROWLES, Edith O. *Procedures for developing a program for combating obesity in children*. M.Ed. in Physical Education, 1978, 54 p. (L. I. Magnusson)
In order to set up a program for the obese, it was important to review the different aspects concerning obesity. Information was gathered on the various philosophies concerning the origin and onset of obesity, as well as the relationship of energy balance and physical activity to obesity. The procedures for setting up the program to combat obesity were based on information from the literature and consultation with experts in the fields of medicine, nutrition, and PE. After the procedures were written, they were reviewed by 2 currently teaching physical educators, and suggestions were made for possible improvements. The procedures were then revised, expanded, and explained in detail. Program activity suggestions were made for inclusion in each of the 3 sections of the lesson, along with sample lessons representing the beginning, the middle, and the end of the unit. Suggestions for program evaluation were developed involving objective and subjective measures. Evaluation was to occur midway through the yr and again at the end of the yr. The procedures and program suggestions were designed to supplement the existing PE program. It was not within the scope of this study to test the procedures or the suggested program activities.

276. SCHARF, Sandford Z. *The effects of leisure counseling on the community adjustment and attitudes toward leisure of probationers and parolees*. M.S. in Recreation and Parks, 1978, 107 p. (G. C. Godbey)
With the authorization of the PA Board of Probation and Parole, 66 experimental group Ss underwent 12 wks of a leisure counseling program conducted by parole agents. The Ss completed a leisure attitude measurement instrument at the outset and conclusion of the program to assess its effects on their attitudes toward leisure. The instrument measured: the amount of work and vacation time the Ss perceived having and their satisfaction with that amount; what they thought society's role should be in regard to planning leisure activities; their definition of themselves through their work and leisure; the amount of leisure they perceived possessing;

their affinity to leisure; their attitudes toward work; their attitudes toward leisure; and their preferred free-time activities. Parole agents completed community adjustment questionnaires to assess their clients' community adjustment at the beginning and the end of the counseling program. The clients were rated in the following categories: ability to meet survival needs; degree of personal contentment; work and vocational adjustment; development of constructive leisure habits; financial management; ability to meed emotional needs; ability to get along with others; degree of family stability; ability to handle stress constructively; and agent's subjective impression of client's overall adjustment. Results indicated few sig diffs from the pretest to the posttest in the leisure attitude instrument. However, statistically sig positive diffs were found in each of the community adjustment categories, demonstrating a positive community adjustment by the probationers and parolees.

277. SCOTT, Steven G. Effects of three water temperatures on college women swimmers. M.S. in Physical Education, 1978, 64 p. (J. L. Hodgson)

16 college women competitive swimmers performed in various swimming and floating events at the water temps of 18.9°, 26.7°, and 34.4°C. The 6 events measured at all 3 water temps were 2 events of the 200 m crawlstroke, 200 m breaststroke, 400 m crawlstroke, 20 min pace swim, and the 20 min floating event. HR, rectal temp (T_{re}), mean skin temp ($\bar{T}_s$), and mean body temp ($\bar{T}_b$) were measured before the event and on completion of the event at the intervals of 1, 3, 5, and 15 mins while the S was dry and sitting out of the water. HR was counted by a stethoscope positioned on the chest wall over the cardiac apex. T_{re} was recorded by a rectal thermistor connected to a Hewlett Packard Digital Multimeter. A Barnes Infrared Thermometer was used to determine skin temp over 6 sites. The $\bar{T}_b$ was calculated from measurements of the S's $\bar{T}_s$ and T_{re}. Swimming in water at diff temps was found to sig affect $\bar{T}_s$, T_{re}, and $\bar{T}_b$. HR diffs were not sig in these water temps. Swimming breaststroke or crawlstroke 200 m at identical water temps made no diff in HR, $\bar{T}_s$, T_{re}, ot $\bar{T}_b$. Increasing the distance from 200 to 400 m crawlstroke did not affect sig HR, T_{re}, $\bar{T}_s$, and $\bar{T}_b$ at the same water temp. Swimming instead of floating in water of the same temp produced sig diffs in HR. T_{re}, $\bar{T}_b$, and $\bar{T}_s$ were statistically greater while swimming in water at 26.7°C and 34.4°C than while floating, but there was no diff in the 18.9°C water.

278. SHEDAHL, Lois M. Effects of exercise in cool water on

body weight loss and thermoregulation of women. Ph.D. in Physical Education, 1978, 140 p. (E. R. Buskirk)
3 lean (20% body fat) and 7 obese (30% body fat) women performed submax exercise during head-out immersion in water temps of 28, 24, and 20°C. Each test was 90 min unless critical body cooling occurred. VO_2, rectal temp (T_r), triceps and subscapular subcutaneous temps (T_{sq}), water temp (T_w), and HR were continuously measured and conductance (K) and heat debt (Q_b) calculated. VO_2 and T_r did not differ for the 3 water temps in the obese women, but a sig increase ($p \angle .01$) in VO_2 and decrease ($p \angle .01$) in T_r was observed in the lean women in 24 and 20°C water. The 3 lean Ss exercised for 60-75 min in 20°C water due to a decrease in T_r to 35°C or an attainment of a max tolerable Q_b. K values were sig higher ($p \angle .01$) in lean women than in obese women at all temps. A direct *r* was found between T_{sq} and T_w for both groups. No sig diffs were found between lean and obese groups in Q_b. Following testing, the obese women performed low-intensity exercise for 90 min in cool water (17-22°C), 5 times per wk for 8 wks, to determine if periodic cold exposure and the attendant caloric deficit in body heat stores would bring about body wt loss. Continuous measurements of VO_2, T_r, T_w, and HR were made and heat production (M) and Q_b calculated. Food intake was determined. Body wt, body fat, and fat-free body wt did not change sig nor did food intake increase, indicating that Q_b of the magnitude imposed in this study was presumably repaid without a measurable increase in energy expenditure. Caloric and thermal data obtained suggest that body heat stores were repaid slowly by resting metabolic M associated with a reduction in body heat loss during recovery. There was no metabolic or thermal evidence of cold adaptation in the obese women during the 8 wks of periodic cool water exposure.

279. SNYDER, Robin V. *Examination of iris color/pigmentation measures as predictors of motor reactivity.* M.S. in Physical Education, 1979, 83 p. (D. M. Landers)
This investigation continued the study of an eye pigmentation/reactivity hypothesis, first suggested by Worthy (1971). The present study examined the effects of eye pigmentation on the various components of reaction and response times, the linear and nonlinear trends in performance measures over the 4 pigmentation groups, and the *r*'s between performance and eye pigmentation ratings. In the reaction/response time task, the S responded to an auditory stimulus by lifting the forefinger upward off of a telegraph key and through a beaded chain. 4 groups of 20 male college students performed 15

practice and 28 performance trials. These groups were selected on the Siber-Hegner eye color scale, but each S received ratings on Worthy's extremes scale (if appropriate) and density readings from picture negatives of the iris. Data were analyzed using a 1-way ANOVA for eye pigmentation groups. Results indicated that the darker-eyed group had a sig faster mean premotor time than the light-eyed group. Sig linear trends were found for both premotor and reaction time means (Siber-Hegner). These results support the proposed eye pigmentation/ reactivity relationship. r's were sig between the Siber-Hegner and density measures and the performance measures of premotor and reaction time, while those between Worthy's scale and the performance measures were nonsig. Thus, Worthy's scale did not predict performance as well as the other 2 pigmentation measures.

280. THORN, Bernard E. Normalization and recreation service delivery systems. Ph.D. in Recreation and Parks, 1978, 138 p. (H. M. Lundegren)

This study investigated the achievement of the principle of normalization by REC services for the handicapped operating under open and closed systems of organization in 4 of the 8 identified recreational settings: public REC and park DEPTS; after-care centers and sheltered workshops; nursing homes; and hospitals for the aged. A further purpose was to establish the appropriateness of Program Analysis of Service Systems (PASS) as a viable means of assessing REC services for the handicapped. 2 agencies in each of the 4 recreational settings were selected because they were not organized specifically under the normalization principle, and with the stipulation that within each setting 1 agency must be an example of an open system and the other a closed system. A 5-day training course was developed to train raters in the use of PASS. An 85% or better inter-rater % agreement was obtained to determine the ability of the trainees to utilize PASS. 3 raters were assigned to the rating team for each agency. On the basis of the findings of this study, the following conclusions seem justified: PASS is an appropriate means of assessing REC services for the handicapped; REC delivery services operating under the open system meet normalization goals to a higher degree than those services operating under the closed system in all settings; and whether under open or closed systems, community-based REC services meet normalization goals to a higher degree than do institutional REC services.

281. TOOLE, Tonya. Recall and recognition in short-term

motor memory: A test of Adams' closed-loop theory. Ph.D. in Physical Education, 1978, 106 p. (R. W. Christina)

Exp 1 was to determine if recall of initial movement direction and recognition of movement extent in short-term motor memory were differentially affected by feedback stimuli over a 10- and a 90-sec retention interval (RI). A Numonics Electronic Graphics Calculator was on-line with a PDP-10 computer which recorded 2-dimensional movement in the horizontal plane. Error was computed every 50 msec throughout the movement. The criterion movement was 9 in (22.86 cm) long and at an angle of 140° in the anterior portion of the S's (n=160) frontal plane. A 2 x 2 x 2 x 2 factorial design (2 vision levels, with and without; 2 proprioception levels, augmented and minimal; 2 RI orders, 10-90 and 90-10; and 2 RI levels, 10- and 90-sec) with repeated measures on the last factor was used. It was determined that: augmented proprioceptive cues detrimentally affected initial direction but enhanced recognition of extent over a 10-sec RI but not over a 90-sec RI; vision did not more effectively strengthen the perceptual trace on 2 trials than augmented proprioception; and forgetting due to trace decay was greater over the 90-sec RI for movement extent, but not for initial movement direction. It was not clear whether the memory trace and perceptual trace are independent mechanisms. Exp 2 also tested for independence of memory trace and perceptual trace. It was hypothesized that a RI filled with mental activity interferes with retention of initial direction but not extent. A diff group of Ss (n=40) than used in Exp 1 made the same practice, criterion, and reproduction movements as were performed in Exp 1. During the 20-sec RI, Ss either classified digits or rested. Results indicated that memory trace and perceptual trace were not differentially affected by mental activity during the RI.

282. TROPP, Karen J. Team interaction and the emergence of leadership and interpersonal attraction in varsity field hockey. M.S. in Physical Education, 1978, 102 p. (D. M. Landers)

Intercollegiate field hockey (FH) teams (n=37) using the 4-3-2-1-1, 5-3-2-1, and 4-2-3-1-1 systems were observed during regular season play to determine the high- and low-interacting positions and to compare these findings to theoretical predictions from the centrality index. 12 intercollegiate FH teams (n=177) were examined (4 teams for each system) to investigate the relationships between empirically determined interaction frequency and the emergence of leadership and interpersonal attraction. Each S completed 2 questionnaires: one to rate each teammate on leadership and attraction qualities; the second to obtain information on the S's background in sports. ANOVA showed sig diffs ($p < .05$) between interaction frequencies of the 11 diff positions. High interactors were 3 offensive positions on the left side of the forward line; low interactors were 3 or 4 defensive players, usually goalies, fullbacks, and sweepers. The *r*'s between the empirically determined interaction frequencies and the predictions using the centrality index were extremely low (*r*'s $< .27$). *r*'s calculated to compare 2-way interaction rates, total attraction between 2 players, and yrs known were not sig. A *r* between leadership and attraction ratings was sig. Age, yr in school, yrs on the team, position, and interaction frequency were not sig factors. It appears that the centrality index is not a valid instrument for predicting interaction frequency of highly dynamic systems such as those found in sports; and that functional, rather than physical, centrality seems to be the important concept.

283. VENEZIA, Lisa R. *The effects of physical practice and a combination of mental-physical practice on tennis service placement ability*. M.Ed. in Physical Education, 1978, 84 p. (H. M. Lundegren)

Ss were 23 tennis players from both the women's and men's tennis teams, as well as from advanced tennis classes. The physical-practice group (n=10) warmed up for 10 min each day prior to the administration of the Hewitt Service Placement Test. Ss in the mental-physical-practice group rehearsed serves mentally for 5 mins before their 5-min physical warm-up, which was then followed by the service placement test. Data were collected for 14 days in Dec. and 14 days in Jan. from 12:00 midnight to 2:00 a.m. at PSU's Indoor Tennis Club. Between-group comparisons were made using an independent *t* test which indicated that there were no sig diffs between the physical-practice group and the mental-physical-practice group before or after the exp period. The diffs between the pre- and post-test scores within the 2 groups themselves were not statistically sig at the .05 level as computed by a dependent *t* test. These results failed to support the investigator's original hypotheses. Test-retest reliability of the Hewitt Service Placement Test was computed both at the beginning and the end of the study. The results were variable, with the highest coefficient being .71. Although the group was small and the time of day not ideal for consistent performance, the test cannot be considered highly reliable as used in this study.

284. WESTHUIS, Arrien. Development of norms for the physical performances of college females on selected motor activities. M.S. in Physical Education, 1978, 72 p. (J. D. Gallagher)

Physical exercise tests (racketball striking; throwing and catching; soccer-ball kicking; shuttle run; standing broad jump; 12-min run; grip strength; sit-ups; and 90-sec flexed arm hang) were administered to 250 college women to determine their muscular endurance, strength, and motor skill performances. Ss were volunteers who were enrolled in Basic Instructional Program PE classes at PSU during the 1977-1978 academic year. Data were analyzed by computing means, SDs, ranges, frequency distributions, and percentile norms for all 9 tests. *r* coefficients were calculated between test performances to help determine degree of relationship. Statistical analyses were completed via Minitab II, a computer program of the Computation Center at PSU. Percentile norms established in this study were similar to percentile norms reported by previous investigators, but the females at PSU scored consistently higher on the sit-up test at all percentiles when compared to the results of earlier studies. Frequency distributions for the 9 tests were found to approximate the theoretical normal curve. Inter-*r* of the tests showed that high relationships existed between the throwing and catching and the racketball-striking tests and between the shuttle run and the standing broad jump. Female students at PSU appeared to be similar in proficiency in the performance of physical tests when data were compared to existing norms.

285. WHITESIDE, Patricia W. An epidemiological examination of sports-injury patterns in collegiate women's athletics. M.S. in Health Education, 1978, 103 p. (R. W. St. Pierre)

This study entailed an epidemiological examination of sports injuries among female and male athletes and characterized and demonstrated opportunities for statistical analysis of women's injuries in collegiate sports, utilizing selected 1975-76 and 1976-77 NAIRS data. The study sample was derived from those 4-yr colleges and universities that reported to the National Athletic Injury/Illness Reporting System (NAIRS) from within the U.S. The information sought dealt with the incidence of injury according to game- and practice-related situations, types of injuries incurred, the body part affected, the specific activity, and the period of play at the time of injury. Results of the study showed that basketball had the highest indidence of injury over the 2-yr period; reportable injuries for women were highest in the category of sprains;

the 4 areas of the body with the highest incidence of injury were the ankle/foot, hip/leg, knee, and forearm/hand; and the activities which had the highest injury rate were other/no contact in basketball and field hockey, combinational-move in gymnastics, and baserunning in softball. Recommendations for future study suggested that further in-depth research be conducted, and that information obtained from this study be used to set up preventive guidelines pertaining to the assignment of paramedical personnel and first-aid equipment at athletic events.

PURDUE UNIVERSITY (Carol J. Widule)
WEST LAFAYETTE, INDIANA

286. DUDA, J. L. "Fear of success" in selected women athletes and non-athletes. M.S., 1978, 75 p. (H. M. Smith)

A projective test was utilized to determine whether there is any apprehension or anticipation of negative consequences in PU female athletes and non-athletes with regard to women being successful in certain sport situations. Ss were asked to write 3 stories in response to cues depicting female competitors in either masculine (softball, basketball, and soccer) or feminine (gymnastics, swimming, and tennis) sports. Horner's revised scoring system (1973) was used to assess "fear of success" imagery. ANOVAs were done on the following factors: cue by group; intercollegiate versus club athlete; and class yr. ANOVAs were done to check for any diff between the groups, club athletes, and class yr with respect to the masculine or feminine cues. ANOVA procedures were used to determine diffs in scores between the groups for each separate cue. No sig diffs were found in each analysis and scored fear of success was noticeably low for athletes and non-athletes.

287. LEWALLEN, W. C. A study of the effect of selected training methods on overarm throw baseball velocity. M.S., 1978, 64 p. (D. Corrigan)

21 male baseball players, 15 to 16 years old, were randomly assigned to 3 equal groups. For 4 wks, group 1 participated in a program of progressive resistance, isotonic wt training designed to improve muscular strength of upper body muscle groups; group 2 participated in a program of task-specific throwing (maximum throwing at progressively increased distances); group 3 participated in regular practices and games. Each S was tested for velocity prior to and following the training period. A nested-factorial ANOVA revealed a sig

group-by-test interaction. A Newman-Keuls range test revealed that group 1 and 2 experienced sig increases in velocity from pre- to posttest. On the posttest group 1 was sig better (greater velocity) than groups 2 and 3 while group 2 was better than group 3. These findings demonstrated that both isotonic wt training and task-specific throwing resulted in sig improvements in velocity; that a program of progressive resistance, isotonic wt training was superior to a program of task-specific throwing and superior to a program of regular baseball practice for improving overarm throw baseball velocity; and that a program of task-specific throwing was found to be superior to a program of regular baseball practice.

288. LIPNICKEY, Susan C. A comparison of assertiveness in male and female varsity college athletes. M.S. in Physical Education, 1978. (Anthony A. Annarino)
The purpose of this study was to determine if sig diffs existed in the personality trait of assertiveness between and among male and female university athletes. The Ss used were 41 male and 38 female participants in golf (male n=10, female n=9); tennis (male n=7, female n=7); and track and field (male n=24, female n=22) at the varsity level at PU. Galassi's College Self-Expression Scale, a personality inventory designed to measure assertiveness, was administered to all athletes. A raw score was obtained for each athlete and, from the raw scores, a mean score was determined for each team. Results indicated no sig diffs among the female athletes, between male and female tennis players, and between all the male and all the female participants. Sig diffs were found in 3 of the hypotheses: male track and field team members were less assertive than male golfers and male tennis players; male track and field team members were less assertive than female track and field members; and female golfers were less assertive than male golfers. Due to the small sample size and the inconsistent results, neither males nor females can be said to be sig more assertive than the other. Recommendations for future studies in this area are included.

RADFORD COLLEGE (M. W. Dumin)
RADFORD, VIRGINIA

289. FUTTEN, D. L. A survey of physical education programs for the mentally handicapped in the public schools of Virginia. M.Ed. in Physical Education, 1978, 126 p. (M. W. Dumin)
A modification of Brace's 1966 Questionnaire was sent to

stratified random sample of 150 ELE, JHSS, and SHS. Areas of concern were: program types, time allotment, facilities, testing and evaluation, activities, extra-curricular activities, curriculum guides, and staff preparation. Results indicated that: 3/4 of JHS and SHS mainstreamed, 1/3 ELE mainstreamed, JHS and SHS mentally retarded students had longer class time, TMR receive less PE than EMR, facilities were inadequate, 1/4 of students received annual medical exams, special physical fitness tests were not used, calisthenics, stunts, and tumbling and movement education were main activity areas, 4/5 of programs did not have aquatics, intramurals were not available in 2/3 of programs, interscholastic sports were available in 1/2 of programs, less than 1/2 of programs had special curriculum guides, 2/3 of teachers requested in-service work.

SPRINGFIELD COLLEGE (W. J. Sullivan)

290. AMUSA, Lateef O. The relationship between soccer playing ability and selected measures of structure and physical-physiological performance in college men. D.P.E., 1978, 238 p. (W. Sullivan)

Ss (n=46) were well-conditioned college soccer players with at least 2 yrs playing experience on the college level. They were tested for running speed, power, agility, max VO_2, strength, anaerobic capacity, and flexibility. In addition, 11 anthropometric measurements consisting of skinfolds and body diameters were taken. Soccer playing ability served as the criterion and was measured by the ratings of 3 experienced soccer coaches based on selected soccer skills and strategies. Analysis of the data was by zero-order correlations and multiple R analyses resulting in the following conclusions: age (experience) is the best single predictor of playing ability; wt, LBW, and ht are considered good predictors of playing ability; max VO_2 and running speed are considered important factors in soccer performance, flexibility, agility, lactate concentration, and leg power are not considered as valid indicators of playing ability.

291. BAIN, Douglas F. Effects of exercise intensity on recovery heart rate and blood pressure for cross country athletes. M.S. in Physical Education, 1978, 77 p. (A. Mahurin)

The Ss for this study were 10 members of the 1977 SC men's cross-country team. Ss were trained to take HR and BP measurements. Each S took these measurements 3 times a day, each day of the season. In addition, each day's practice workout was rated for intensity. ANOVA was used to analyze the data from the treatment (intensity-high and low) by treatment (time of day - morning, afternoon, and evening) by Ss design. No diffs ($P > .05$) were found for the systolic and diastolic BP measurements. For HR, it was found that the afternoon and evening measurements were greater ($p < .05$) than the morning measurement. Intensity level did not seem to affect either HR or BP.

292. CORRAN, Robert. A comparison of the scholastic-achievement of community league hockey players, interscholastic athletes, and non-athletes. M.S. in Physical Education, 1978, 47 p. (W. Sullivan)
Ss (n=201) for this study were male students attending secondary schools in North York, Ontario. 51 Ss participated in out-of-school ice hockey, 75 participated in school athletics, and 75 did not participate in either ice hockey or school athletics. The 3 groups were compared on GPA and the no. of courses successfully completed by the use of ANCOVA. No sig diffs ($P > .05$) were found.

293. CULLINANE, Eileen M. The use of hematological measures for the detection of overwork in cross country runners. M.S. in Physical Education, 1978, 107 p. (A. Mahurin)
Ss for this study were 15 members of the men's varsity cross-country team at SC. Blood samples were taken from the Ss 20 times during the course of the season. Each sample was analyzed for hemoglobin content, red cell count, and white cell count. Also, the Ss' times from 6 competitive meets were recorded. Analysis was by r and R and the following conclusions were given: a single measure of hemoglobin, white cell count, or red cell count taken prior to a meet does not accurately predict running performance; the change in blood components from one reading to the next just prior to a meet is not a good indicator of running performance; the average value of several readings of blood components prior to a meet does not accurately predict running performance although the findings were contradictory in this analysis.

294. DENKEWICZ, Mary L. A study of architectural barriers in public playgrounds in selected towns in Western Massachusetts. M.S. in Physical Education, 1978, 64 p. (J. Parks)
A total of 25 playgrounds were investigated in 4 selected W. MA towns. The investigator utilized an 11-section check list

suggested by Shaw and Tica to indicate the degree of accessibility of buildings and facilities for the physically handicapped. It was found that only 6 of the 25 playgrounds were accessible to the wheelchair-bound person. Playgrounds constructed after 1965 were more accessible to the physically handicapped than those constructed before 1963. The majority of the playgrounds lacked ramps, public telephones, swimming pools, curb cuts, and a main entrance to a building. Drinking fountains were found to be the most accessible of the 11 section checklist. The main architectural barriers found were the parking lots and the restroom facilities.

295. FITZPATRICK, Kevin. *A comparison of the kick off the turn method versus the stroke off the turn method in the open butterfly turn*. M.S. in Physical Education, 1978, 34 p. (W. Doss)

Ss (n=8) were members of the Burnt-Hills Ballston Lake Swimming team. All Ss were thoroughly trained in both methods (kick-off and stroke-off) of coming off the turn before being tested for elapsed time with each method. A correlated *t* test showed no diff ($p > .05$) between the 2 methods.

296. FLOWERS, Larry F. *A kinematic analysis of the glide kip mount on the parallel bars*. M.S. in Physical Education, 1978, 94 p. (H. Childs)

3 college-age male gymnastic team members were filmed while performing glide kip mounts on the parallel bars. Findings led to the following conclusions: the transfer of joint sections between the upper and lower body, in proper sequence, resulted in a summation of motion which led to successful completion of the mount; the proper summation of motion seemed to explain the close similarity of motion patterns for all Ss; the proper sequencing of joint actions seemed to be directly related to the positioning of the total body center of gravity below and behind the Ss' point of support prior to its elevation above the point of support; the hip and shoulder joints appeared to be the key joints in the performance of the mount. Their actions caused the greatest changes in the direction, magnitude, and speed of the Ss' angular motion patterns.

297. GRAY, Michael A. *A comparison of the academic performance of football players and non-athletes*. M.S. in Physical Education, 1978, 37 p. (J. Parks)

The Ss (n=402) were students at Morehouse College from 1972-1976. They were placed in 1 of 3 categories: athletes who participated in football only, football players who also participated in another sport, and non-athletes. A 3 (categories) by 4 (yrs) factorial arrangement was used with ANOVA. It was found that the non-athletes achieved sig higher ($p < .05$) GPA's than the Ss in the other 2 categories. Correlated t-tests showed that football players achieved higher grades ($p < .05$) in the semester of non-participation in only one of the 4 yrs.

298. GUNDERSEIM, Julius. A comparison of athletes and non athletes on measures of self-actualization and sensation seeking. D.P.E., 1978, 206 p. (E. Seymour)
The Ss were university male athlete varsity and JV team members (track & field, lacrosse, wrestling, gymnastics, baseball) and non-athletes selected from students taking a core course in food science. All Ss were administered the Personal Orientation Inventory and Zuckerman's Sensation Seeking Scale. Data were treated by r and stepwise discriminant function technique. Based on the findings, it was concluded that: a positive relationship exists between self-actualization and sensation seeking; there are no diffs in self-actualization among the Ss on the 5 diff male athletic teams and the 4 female athletic teams; female athletes are more self-actualized than male athletes but there are no diffs between the male and female non-athletes and between the female athletes and non-athletes; males have a higher sensation seeking need than females but there are no diffs among the female Ss on the 4 teams. Female athletes have a higher sensation seeking need than non-athletes, but there is no diff between male athletes and non-athletes.

299. HOFFMAN, Carl. The effect of object speed and direction on coincidence-anticipation performance. D.P.E., 1978, 207 p. (B. Jensen)
Ss in this study were 10 male and 10 female PE majors at Niagara University. Each S was tested under all treatment combinations resulting from the factorial arrangement of 3 independent variables which consisted of 5 angles of approach, 3 ball speeds, and 3 blocks of trials. Ss were tested on 5 diff days, completing 72 trials each day. The task was to anticipate when the leading edge of a rolling ball was coincident with a target painted on the track. Dependent variables were CE, VE, and Henry's E scores for both time and distance error data. Based upon the findings, the following conclusions were made relative to coincidence-anticipation performance: accuracy, variability, and overall performance is not affected by the angle of ball approach; accuracy and overall performance is improved by practice, but variability

of performance is not affected; accuracy is improved as ball speed increases, but variability and overall performance become poorer; there is an interaction between ball speed and angle of approach for accuracy and variability but not for overall performance; distance error is superior to time error when comparisons across ball speeds are made.

300. LAMPSHIRE, Susan R. The influence of intramural contest outcomes and participants' sex on authoritarianism. D.P.E., 1978, 108 p. (E. Seymour)

Ss in this investigation were college female (n=108) intramural BB and VB players and male (n=96) intramural BB players. Ss were administered 2 diff forms of an authoritarian attitude scale, 1 prior to an intramural contest and 1 following the contest. Ss were also asked to complete an acquiescence response set measure following the contest. The design was a 2 x 2 factorial design with the variables of sex and contest outcome (win or lose). An ANCOVA was used in data analysis. It was found that the outcome of the contest had no effect on authoritarian attitudes ($p > .05$). Women had lower authoritarian attitude scores than men ($p < .05$) for the entire scale and each of its subscales.

301. McFARLAND, John M. A history of the role played by the military in the development of competitive sport in Nova Scotia 1930-1969. D.P.E., 1978, 254 p. (E. Seymour)

Data for this investigation were collected through the use of interviews, questionnaires, and examination of documents. The data gathered were organized into 4 time periods: the pre-war period, 1930-1939; wartime, 1939-1945; the immediate post-war period, 1945-1950; and the period, 1950-1969. It was concluded that the military played a large role in the development of competitive sport in Nova Scotia from 1930-69. During the latter time period of this study, when the role of the universities was becoming more prominent, many of the administrative personnel responsible for the university athletic programs were ex-servicemen. The military also made the public more aware of some competitive sports such as Canadian football, squash, cricket, and swimming. In addition, the military built many excellent sports facilities and fostered their use by civilian groups.

302. MINOTTI, Lisa A. Effects of an exercise program on posture improvement. M.S. in Physical Education, 1978, 66 p. (E. Seymour)

The Ss for this investigation were 28 3rd and 4th grade students with postural deviations. Ss were randomly assigned to either an exp (E) or control (C) group. The Ss in the E group were assigned individual exercises (designed for correction) and in-class instruction of the exercises; the E group did the exercises in addition to regularly attending PE classes for 3 mos. During this time period the C group attended only PE classes. At the end of the 3 mos both groups were again tested for postural deviations. ANCOVA showed that the total postures and the anterio-posterior component of the E group were sig better ($p < .01$) than that of the C group. There was no diff between the 2 groups in the lateral component.

303. NOAKES, Pamela. Images of the female athlete in sports magazines and in society. M.S. in Physical Education, 1978, 82 p. (J. Parks)

The Ss for this study were 6 groups of adult males and females. 3 groups were presented with 6 slides of photographs taken from Sports Illustrated and 3 groups were shown 6 slides of photographs taken from Women Sports magazine. All slides showed women in sports action. Following the slide presentation, the Ss were presented with 15 slides and their task was to rate each slide as to how well the slide represented their image of the ideal woman. ANOVA showed that the Ss who viewed the Women Sports slides had a more positive image of the woman athlete than did the Ss who viewed the Sports Illustrated slides. Men and women did not differ in their image of the woman athlete.

304. PETERSON, Martha V. A descriptive analysis of Afro-American dance movements created by four selected choreographers during 1960 to 1972. M.S. in Physical Education, 1978, 99 p. (J. Parks)

Data for this study were obtained through the use of a questionnaire and personal interviews with 4 selected choreographers who have recreated and incorporated African dance movements in their compositions in order to exhibit meaningful translations of the way of life of the African people. Analysis and interpretation of the data led to the following conclusions: the fundamental characteristics of Afro-American dance which incorporated recreations of African dance were that the head was held loosely, the trunk was flexed, there were exaggerated movements of the pelvic region, the knee was flexed, and the wt of the body was carried on the entire foot; there was a combination of sudden and sustained movements; the predominant formation was the line formation.

305. RICCI, Patrick A. *A comparison of the offensive statistics of baseball teams using wooden bats and teams using aluminum bats*. M.S. in Physical Education, 1978, 32 p. (W. Sullivan)

Data for this study were obtained from colleges in New England, NY, NJ, and PA. Criterion for inclusion in the study was that the baseball team must have used wooden bats for a min of 3 yrs during 1966-73 and aluminum bats only for a min of 3 yrs during 1973-77. Batting averages and slugging averages with the 2 types of bats were compared using the *t*-test which showed both to be sig higher ($p < .05$) when the teams used aluminum bats.

306. SAWHILL, James A. *Striking mass of the instep soccer kick*. M.S. in Physical Education, 1978, 81 p. (H. Scheuchenzuber)

Ss (n=20) for this investigation all had previous varsity collegiate playing experience in soccer. Ss were filmed as they performed 5 trials of the instep kick. Measures of body wt, ht, ball wt, and kicking shoe wt were also taken. Analysis of the data was by *r*. No relationships ($p > .05$) were found between striking mass and body mass, between striking mass and ht, striking mass and kicking shoe mass, between striking mass and kicking foot velocity before impact, between striking mass and velocity of the soccer ball, and between striking mass and the angle of projection of the impacted soccer ball. There was a positive relationship ($p < .05$) between striking mass and velocity of the kicking foot after impact. Also, there was a negative relationship ($p < .05$) between striking mass and loss in kicking foot velocity during impact with the soccer ball.

307. SCHWANDA, Nancy A. *A biomechanical study of the walking gait of active and inactive middle-aged and elderly men*. D.P.E., 1978, 192 p. (B. Jensen)

Ss (n-28) for this study were males classified as active or inactive and as middle-aged or elderly. Each S was fitted with an electrogoniometer and footswitches and marked for segmental endpoints and filmed while walking at his own pace. The design was a 2 x 2 factorial design with age group and activity level as the 2 independent variables. Data were analyzed by MANOVA and univariate tests. Conclusions were: there is no diff between active and inactive men with respect to stride length, stride rate, swing time, support time, and vertical displacement of the body's center of gravity; the stride length of elderly men is shorter than that of middle-aged men but their stride rate, swing time, support time, and vertical displacement of body's center of gravity is the same; there is no diff between active and inactive men and between elderly and middle-aged men with respect to the greatest and least amount of knee flexion throughout the stride cycle and with respect to the amount of kinetic energy of the thigh, leg, and total body throughout the stride cycle, at heel strike, toe-off, and mid-swing.

308. SNITKIN, Carlton L. A comparison of two weight training methods for increasing strength of the powerlife movements. M.S. in Physical Education, 53 p. (W. Sullivan)

Ss (n=30) for this investigation were students enrolled at the US Coast Guard Academy. 15 Ss were randomly assigned to an E group and 15 to a C group. All Ss went through a wk of pre-training to develop proper lifting techniques. They then began a 5 wk program utilizing the 3 powerlifts (squat, deadlift, and benchpress); they trained 3 days/wk and were tested for max strength on each of the 3 lifts on the last day of each wk. The E group also performed a set of assistive exercises on each training day. The C group performed only the power lifts. The design was a 2 x 5 (wks) with repeated measures on the last factor. ANOVA was used and it was found that the non-assistive method of training was more effective than the assistive method for increasing strength on the squat lift. No diffs were found between the 2 training methods for increasing strength on the deadlift and the bench press. Both training methods were effective for increasing strength on all 3 powerlifts over the 5 wk training period.

309. THOMPSON, Robert D. An historical study of instructional and competitive swimming at the United States Naval Academy. M.S. in Physical Education, 1978, 53 p. (J. Parks)

Data for this study were collected from documents, and interviews and correspondence with AD's, coaches, swimmers, and midshipmen. The data were organized chronologically with the instructional program presented 1st followed by the competitive program. It was found that swimming instruction was not a mandatory part of the PE curriculum until 1912 even though the 1st swimming pool was completed in 1903. The competitive program also began in 1912. The 1st major change in the instructional program occurred in 1920 when lifesaving was introduced. The 2nd came in the early 1950's when the emphasis was changed to survial swimming. The competitive program has had only 3 coaches from 1917 to 1977. A women's competitive swimming program has only recently begun.

310. YEO, David. A comparison of isokinetic and isotonic leg strength programs following menisectomy. D.P.E., 1978, 138 p. (C. Keeney)
30 males, ages 17 to 25 yrs, who had complete and uncomplicated menisectomy, served as Ss for this study. Ss were assigned to one of 3 exercise programs: isotonic, isokinetic, or a control group. The isokinetic group exercised on an Orthotron 4 days/wk and on days they did not use the Orthotron trained using conventional wt training equipment. The isotonic group trained using conventional wt training equipment. The control group did not follow any formal or controlled exercise program. After the 8 wk training program all Ss were tested on 4 measurements of strength and re-tested for thigh girth and range of motion. Data were treated by MANOVA and univariate F tests. The main conclusions were: none of the 3 training methods was superior in rehabilitating the knee in terms of static and dynamic muscular strength; objective strength tests are good indicators of functional diffs between flexion and extension and between the affected and non-affected knees; the exercise programs resulted in satisfactory levels of strength and endurance.

311. ZIEGLER, Arthur P. The relationship between takedowns and success in scholastic wrestling. M.S. in Physical Education, 1978, 29 p. (W. Sullivan)
The data for this study consisted of the results of 4,216 wrestling matches by 9 Southeastern CN HS students over a 5 yr period. For each match, information was obtained relative to the wrestler who gained the 1st takedown and whether he won or lost the match. Data were treated in total and by the 3 wt classes (heavy, middle, and light) using X^2. It was concluded that takedowns play a vital role in predicting the outcome of a wrestling match. Wrestlers who secure the 1st takedown in the initial period of a match will win the match much more often than they will lose.

SOUTH DAKOTA STATE UNIVERSITY (B. McKeown)
BROOKINGS, SOUTH DAKOTA

312. EKELAND, Mark O. Status and reflections of Augustana College athletic letterwinners. M.S. in Health, Physical Education, and Recreation, 1978, 131 p. (N. W. Hattlestad)
A questionnaire was sent to all intercollegiate varsity athletic letterwinners of Augustant College, Sioux Falls, SD

included in records obtained from the Alumni and Athletic Office files, 1920 to 1977 (n=58). A total of 542 (56.6%) questionnaires were returned before the deadline. The data were analyzed through calculation of the total no. of responses to each questionnaire item, as well as %, and averages. The questionnaire consisted of items pertaining to present status and opinions of the letterwinners. The status items consisted of: letters received in each sport, sex, marital status, children, state of residence, date of graduation, academic major(s), graduate study, advance degrees, parents' education, financial assistance received, occupation, military service, organization membership, political offices held, salary, physical condition, leisure time activities, and participation frequency. The letterwinners responded positively to the following opinion items: 72% believed they were well prepared for coaching; 83.6% indicated that their coach(es) had at least some influence on their personal growth; 69.0% believed that in the classroom they received the same treatment as other students; 60.0% suggested that athletic participation was worthy of academic credit; 73.1% stated that their athletic experience had a positive effect on their present feelings toward their alma mater; and 68.8% believed that athletics had a positive effect on their lives.

313. HOFER, Herbert H., Jr. *Cinematographic analysis of ball trajectory during free throw shooting among members of the South Dakota State University varsity basketball team*. M.S. in Physical Education, 1978, 38 p. (N. W. Hattlestad)

Photographs were made of 220 successful and 143 unsuccessful free throw attempts performed by 20 members of the SDSU men's varsity basketball team. Components of each trial which were analyzed included: angle of release, angle of entry, ht of the arch, horizontal distance of the point of release from the highest point of the arch, horizontal distance of the highest point of the arch to the front of the rim, and ht of the release. The $\bar{x}$ and SD values for each component were determined. A *r* analysis revealed that of the 15 possible *r*'s between the components, 14 were sig (p .05). Through the use of a discriminant function analysis procedure, it was found that knowledge of the horizontal distance of the point of release from the highest point of the arch could be used to predict the outcome of free throw attempts at an accuracy level of 66.9%.

314. McCLOSKEY, Wesley D. *The effectiveness of two types of visual feedback on performance of selected uneven*

parallel bar skills. M.S. in Health, Physical Education and Recreation, 1978, 108 p. (N. W. Hattlestad)
Female college undergraduates (n=30) enrolled in gymnastics and tumbling courses in the Fitness and Lifetime Activities Program (non-majors) at SDSU were Ss in a study designed to determine the effectiveness of 2 types of visual feedback on performance of selected uneven parallel bar skills. Videotape replay feedback and teacher demonstration feedback were assigned to the 2 exp groups with the 3rd group serving as the control. Treatment for the exp Ss consisted of videotape replay of skill performance for 1 group and teacher demonstration of the skill for the other group. Data analyses included judge objectivity among the raters, reliability and reproducibility assessments, and ANOVA to determine whether sig mean changes had occurred between the groups. A high level of objectivity was found between the raters. Reliability coefficients and reproducibility of the data were generally high for the ratings. Nonsig (p .05) F-ratios were found between the groups. Therefore, within the constraints of this study, it did not appear that the use of videotape replay had an effect on the performance of uneven parallel bar skills.

315. ODEGAARD, Les C. An assessment of the understanding of human sexuality concepts among undergraduates at South Dakota State University. M.S. in Health, Physical Education, and Recreation, 1978, 78 p. (J. Booher)
Form X of McHugh's Sex Knowledge Inventory was administered to selected undergraduates (n=1,380) during the spring semester of 1978. Test results revealed a mean score of 45.3 (56.6%), which was slightly below current norms (59.6%). High scores were recorded in the areas of superstitions, misconceptions, and misinformation (87.3%) and masturbation (73.6%). Low scores were attained on items pertaining to the effects of menopause on sex life (34.6%) and possible causes for poor sexual adjustment (46.8%). Females achieved sig higher test results than males. ANOVA revealed sig diffs among the college means (p .05). College group Xs were compared using Tukey's w-procedure. Ss enrolled in nursing achieved sig higher test results than Ss enrolled in agriculture and biological science, arts and science, general registration, and engineering. Ss enrolled in pharmacy scored sig higher than Ss enrolled in agriculture and biological science. 74.1% of the Ss had not completed a course in human sexuality. 64.0% of the Ss felt that additional human sexuality education is needed at SDSU, while 7.3% disagreed. Friends (32.0%) and books and magazines (29.2%) were the most

frequently cited sources of sex information. Ss who received most of their sex knowledge from either college courses or books and magazines achieved sig higher test results than Ss who cited friends as their major source of sex information.

316. SPIELMAN, Jeffrey T. The influence of isotonic and isokinetic weight training on vertical jumping proficiency. M.S. in Health, Physical Education, and Recreation, 1978, 55 p. (B. C. McKeown)
College males (n=28) were Ss in a study to investigate the influence of isotonic and isokinetic wt training on vertical jumping proficiency. Isotonic and isokinetic training were assigned to the 2 exp groups with the 3rd group serving as controls. Training for the exp groups consisted of isotonic circuit training on a Universal wt machine and isokinetic training on a Leaper machine. Data analysis included a reliability and reproducibility assessment and ANOVA to determine whether sig mean changes had occurred between the groups. Tukey's w-procedure was used to identify the source of sig changes. Mean scores for both exp groups were sig (p .05) diff from those of the controls. Although there was no sig diff between mean performances of the 2 groups, the isokinetic group experienced a higher level of improvement (8.7% 7.3%).

SOUTHERN ILLINOIS UNIVERSITY (R. Knowlton)
CARBONDALE, ILLINOIS

317. BALLARD, Marie E. The development of a test for assessing ability to serve in tennis. M.S. in Physical Education, 1978, 100 p. (C. West)
A testing for serving ability in tennis was developed to measure the components of accuracy and velocity. Ss included 31 college women and 19 college men enrolled in classes of beginning tennis at SIU, Spring 1977. Ss served 10 trials (5 right and 5 left) on each of 2 days. A court target was used to measure serving accuracy and raters subjectively rated the velocity of the serve utilizing a 10-point rating scale. Serving errors (swing-and-miss, foot-faults, lets, and net-faults) were noted by both scorers and raters. The data were analyzed using the Pearson Product-Moment Method of correlation, t-test for independent variables and % (p .05). Males scored sig higher than females with respect to serving velocity; however, no sig diff was found between males and females with respect to serving accuracy. It was also found that it is important to measure the serve from both the right and left service courts. The writer

concluded that the proposed test is valid, reliable, objective and practical.

318. COHEN, Michael. The effects of electromyographic feedback as a relaxation technique on psychophysical changes of perceived exertion level and metabolic responses. M.S. in Education, 1978, 97 p. (R. G. Knowlton)

Ss were pre and posttested at 40% and 70% of their aerobic capacity as determined by their max stress test on a bicycle ergometer. Biofeedback was implemented for an exp group of 10 to make within group comparisons. The control group consisted of 4. A dependent *t* test was used as the statistical procedure along with the use of the Borg scale for RPE and the Spielberger Trait and State Anxiety Inventory. The findings in this research has shown that an electromyographic biofeedback program can significantly change selected physiological measurements such as VO_2, heart rate, VE, and VE corrected for BTPS at the 0.05 level. It was further concluded that psychological measurements such as RPE and trait anxiety were not sig changed at the 0.05 level using the same biofeedback relaxation program of 6 sessions for 2 wks of 12 min per session with an auditory mode involving the frontalis muscle.

319. HAYNES, Beverly L. The construction and validation of a skill test for the overarm pass in lacrosse. M.S. in Physical Education, 1978, 87 p. (C. West)

Ss tested during the spring of 1978 included 25 women intercollegiate lacrosse players from Bridgewater College, Bridgewater, VA, and 15 women and 10 men enrolled in a beginning lacrosse class at SIU, Carbondale. Ss performed 10 trials (5 right and 5 left) on each of 2 days, except for the male Ss who performed on 1 day only. Accuracy was measured by use of a target; speed was evaluated subjectively; and passing errors were tabulated. The data were analyzed using the Pearson Product-Moment Method of correlation and a *t*-test for independent samples (p .10). Males scored sig higher than females with respect to all scoring systems. No sig diff existed between the experienced and inexperienced Ss with respect to all scoring systems. Additional findings indicated that performance to the right and left sides was highly related. The investigator concluded that the proposed test is objective, reliable, and valid.

320. LOYE, Anne C. A kinematic analysis of three champions performing the volleyball spike. Ph.D. in Physical

Education, 1978, 880 p. (J. L. Thorpe)
A kinematic analysis of the movement characteristics of 3 female Olympic volleyball players performing the deep cross-court spike was undertaken in this study. The investigator decided to film as many trials as was deemed necessary in order to obtain a minimum of 5 "good" hard-driven spikes for each of the participants. Each S was allowed to warm up prior to the administration of the test. The ball was put in play by the spiker who passed it to a highly-skilled setter. The set-up person returned the projectile to the spiker's on-hand side of the court. 3 16mm cameras photographed the Ss from the side, rear, and overhead views. A Vanguard Motion Analyzer was used to extract the data from the films. The conclusions indicated: the distance from the start of the approach to the net ranges from 7.43 to 10.08 ft; the angle of approach, in relation to the side line and the net, ranges from 39.46 to 65.22^{o}; the max decrease in reaching ht, at the moment of contact, resulting from the utilization of hip and trunk flexion was 4.56 in; and the max projectional velocity of the ball was 44.05 mph.

321. TAHAMONT, Maria. The effects of somatotype, age, and activity level on anaerobic power in women. M.S. in Education, 1978, 72 p. (R. G. Knowlton)
The relationship that exists between somatotype, age, activity level and anaerobic power was examined in women. Norms for anaerobic power in women were established. 100 women, 18 to 35 yrs, were somatotyped according to the Heath-Carter Anthropometric Somatotype. The $\bar{X}$ somatotype was 4-4-2. 20 Ss were somatotyped a 2nd time to establish the reliability of the measurements. The Ss performed Margaria's test for anaerobic power, reported in Kcal/min, and filled out an activity level questionnaire. Multiple regression was the statistical treatment used. The somatotype components and their interactions showed sig correlations (P .05), but the degrees of relationship were too small to be of practical value. Somatotype and activity level accounted for a sig amount of variance in anaerobic power. It was not clear from the data which somatotype was most powerful. It was shown that as activity level increases anaerobic power increases. The $\bar{X}$ anaerobic power value was 40.78 Kcal/min. Normative tables were presented in the form of % ranks and standard score %.

322. WALTERS, Betty L. Response accuracy of female collegiate basketball players in complex situations. M.S. in Education, 1978. (J. Thorpe)

Ss tested during the spring of 1978 included 12 women intercollegiate basketball players from SIU, Carbondale, and 12 women intercollegiate basketball players from ISU, Normal. Collegiate coaches subjectively ranked the players from both the varsity and junior varsity squads on the factor of response accuracy, and 2 criterion groups were established. Group 1 was composed of players believed to possess the greatest degree of response accuracy and group 2 was composed of players believed to possess the least degree of response accuracy among JV and varsity players. Ss were tested on intelligence by the Otis Quick-Scoring Mental Ability Test, on past experience by a questionnaire, and on RT and MT by Dekan Timers. RT and MT measures were taken on 5 trials in 6 diff directions during 2 diff testing sessions. The data were analyzed using the Pearson Product-Moment Method of Correlation, ANOVA's, and multiple r techniques.(p .10). Scores on past experience and MT were sig diff with respect to criterion groups. No sig diffs existed on measures of intelligence and RT. Additional findings indicated that MT and past experience were the best predictors of response accuracy. The investigator concluded that response accuracy could be defined and that the factors of past experience and MT were predictive factors of response accuracy.

323. WILDE, Stephen W. Cardiovascular and metabolic responses to toeclip use during bicycle ergometer work. M.S. in Physical Education, 1978, 85 p. (Ronald G. Knowlton)

The cardiovascular and metabolic effects of toeclip use during max and sub-max (30, 60, and 80% max VO_2) bicycle ergometer work were investigated using 13 female Ss. Cardiovascular and respiratory variables studied were: VO_2, Q (CO_2 rebreathing technique), SV, HR, (a-v) O_2 diff, V_E, R, and V_F. Post exercise blood samples were analyzed for arterial P_{CO2}, blood pH, base excess, buffer base, plasma bicarbonate, and blood lactate. Data obtained during exercise utilizing toeclips was contrasted at equal metabolic workloads with that collected during work without the devices using the t-test for related samples (p .05). While toeclip use did not result in diffs in maximal exercise responses, there were sig diffs at submax workloads. Bicycle work with toeclips resulted in a greater (a-v) O_2 diff, a smaller SV and Q, and decreased lactate concentrations. It was hypothesized that the greater extraction of O_2 by the working tissues and subsequent lower cardiac output were the result of the utilization of a greater muscle mass during toeclip work. The smaller mean lactate values during exercise with toeclips were indications of a lower metabolic rate per unit of contracting muscle.

SOUTHEAST MISSOURI STATE UNIVERSITY (R. F. Kirby)

CAPE GIRARDEAU, MO

324. HAGGARD, Cynthia A. The effects of transcendental meditation on the athletic performance of women. M.A. in Teaching, 1977, 57 p. (D. R. Hamer)

18 Ss were randomly chosen from the 1977 varsity softball team at SMSU. The Ss were randomly assigned to 2 groups of 9 and all were pre-tested in the following 5 areas of athletic performance: grip strength, agility, power, cardiorespiratory endurance, and speed. Following the pre-test sessions, the exp group was taught and practiced TM for 8 wks. Each group was then post-tested using the identical test items as in the pre-test. The results reported no sig diff between the 2 groups in the following measures of athletic performance: speed, grip strength, agility, and power. There was a sig diff reported between groups in the area of cardiorespiratory endurance. There was also no sig gain in performance from pre-test to post-test for neither the exp nor the control group.

325. HALE, Daniel L. A program to develop body awareness among first grade students. M.A.T. in Physical Education, 1978. (J. E. Schneider)

The effect of a training program on 1st grade students' accuracy estimates of 4 anthropometric measures was determined. 40 Ss, 20 boys and 20 girls, were randomly assigned to a control or exp group. A pre-training period estimate of head width, shoulder width, hip width, and vertical ht was taken from each S. The exp group was then exposed to a 3 times per wk, 4-wk program of movement experiences and the control group continued their regular classroom activities. At the conclusion of the training period and again 4 wks following this completion, the S's estimates were retaken and recorded. These 3 period estimates were examined utilizing an ANOVA for repeated measures. Results indicated a sig diff on all 4 measurements for the exp group. No further statistical inference was undertaken. Direction of diff trends were noted. The investigator concluded a training program did affect the sample population's ability to accurately assess these 4 anthropometric measures.

326. McINTYRE, Thomas W. The effects of the competitive football season on pre-season conditioning as shown by

selected physical variables. M.A. in Teaching, 1978, 49 p. (D. P. McNair)

Changes in conditioning levels were determined by tests of strength, flexibility, and cardiovascular fitness. 33 male varsity football players served as Ss for this study. All Ss took part in the same physical activities consisting of various drills and training procedures of the varsity football team and the competitive games themselves. An initial test was given at the end of the pre-season period so that physical condition at the beginning of the competitive season could be established. A subsequent test was administered at the conclusion of the season to determine whether any changes in the variables had taken place. The *t*-test was used to determine the sig of the gains made between the initial and final tests. The data indicates that strength and cardiovascular fitness showed no sig change during the regular football season. Flexibility showed a sig increase during the test period.

327. MAUK, Ted A. *A study of the effects of participation in high school athletics on academic achievement*. M.A. in Teaching, 1977, 33 p. (R. F. Kirby)

The effects of athletic participation on the academic achivement of HS athletes was investigated. The Ss were 20 SHS varsity athletes and a matched group of 20 SHS non-athletes. Academic achievement of the matched groups was measured through comparisons of $\bar{X}$, GPA and $\bar{X}$ raw scores achieved on the School and College Ability Test. The investigator concluded that there is no sig diff in the academic achievement of HS athletes and non-athletes as determined by these measurement devices.

328. MINNER, James A. *The difference in time utilized with the feet-first and head-first slides*. M.A. in Teaching, 1978, 31 p. (R. F. Kirby)

The study was conducted to determine the time diff between the ft-first and head-first slides when used going into 2nd base. 10 varsity baseball players who participated in the 1975 baseball season at Raytown South HS were utilized as Ss for the investigation. Each S performed a total of 20 trials-10 ft-first and 10 head-first. The Ss ran from 1st base and were timed the last 30 ft going into 2nd base. A mean diff in time of .01 sec in favor of the head-first method was found. The investigator concluded that the mean diff was not of practical importance in teaching 1 technique over the other. The SDs for the head-first and ft-first slides were .058 and .413 secs, respectively, indicating that the Ss were more consistent in executing the head-first slide.

329. PUHL, Susan M. The effects of ball color, background color, and sex on the reaction times of kindergarten children. M.A. in Teaching, 1978, 70 p. (S. R. Caskey)

The diffs in the RT of kindergarten boys and girls responding to moving stimuli when the color of the stimulus and/or background was varied was determined quantitatively. 5 ball colors and 3 background colors were investigated. 60 kindergarten children were administered a total of 600 trials, using various combinations of ball colors and background colors. The test situation involved reacting to a solid colored ball which was projected through an opening in a solid colored background placed 30 ft from the S. An ANOVA yielded sig results in both the ball color and the ball color-background color interaction sources of variance. It was therefore concluded that the color of a moving ball has a sig effect on the RT of kindergarten children. In addition, it was concluded that the interaction of ball and background color does have a sig effect on the RT of kindergarten children. However, neither the color of the background nor the sex of the individual had a sig effect on the RT of kindergarten children. From among the colors tested, the stimulus color which resulted in the quickest overall RT was blue, while a white stimulus color resulted in the slowest overall RT. A blue ball against a white background was most quickly detected, while a white ball against a white background resulted in the slowest RT, followed closely by a yellow ball against a buff background.

330. REARDEN, Ina K. The relationship between motor performance and reading readiness. M.A.T. in Physical Education, 1978, 54 p. (S. Caskey)

The relationship between motor performance and reading readiness at the kindergarten level was determined. 51 Ss were given 4 motor tests: zig-zag run, ball bounce, balance, and bean bag toss. The Murphy-Durrell Reading Readiness Analysis was used to assess the student's readiness. Intercorrelations were computed between the motor performance test items and subtests of the reading readiness analysis. The results of the study were compared with the results of Robitz's study in Kansas. Balance was the only area where a slight r was found with reading readiness.

STANFORD UNIVERSITY (John E. Nixon)
STANFORD, CALIFORNIA

331. CHU, Donald. A foundational study of the occupational induction of physical education teacher/coaches as it is affected by the organizational requirements of the training institution and its environment. Ph.D. in Education: Physical Education, 1978, 178 p. (John E. Nixon)

Under investigation is the suggestion that formal educational and occupational career lines of PE teacher/coaches are built around certification for and work in teaching but both the intentions of recruits and those of their supervisors on the work site place a heavy emphasis upon another role - coaching. Ss were secondary school teacher/coaches (n=30) in the non-randomized sample. Supplementing interviews were questionnaires completed by 159 Ss in 3 teacher training institutions in the San Francisco Bay area. The orientation of those programs (i.e., coaching or teaching emphasis) as well as the orientation of these pre-service students was assessed. It was found that 75% of males and 52% of females in pre-service programs preferred coaching. Among practitioners 63% overall preferred coaching with males preferring coaching more than females (73% vs 53% respectively). 87% of practitioners felt obligated to coach as part of their job. Males devoted 68% of their total professional time to athletics with women devoting 45% of their time during the course of the athletic season. During the full academic year males devoted 56% and females 37% of total time to athletics (as opposed to teaching duties). Despite the importance of coaching to occupational role performance, only 7% of respondents indicated the importance of any formal training in the acquisition of coaching skills. The importance of the perpetuation of a "preparation myth" and "labeling myth" are discussed. PE must claim to prepare students for athletics so as to procure resources for itself and the institution but must also guard its grants of legitimacy.

STATE UNIVERSITY OF NEW YORK (D. F. Duncan)
COLLEGE AT BROCKPORT

332. BASCH, Charles E. Evaluation of the acceptability of a computerized health information system. M.S. in Education, 1978. (R. S. Gold)

Acceptability of a Computerized Health Information System (CHIS) intended to facilitate administrative planning and evaluation at the SUNY at Brockport Health Center was evaluated. The Computerized Health Information System was developed by adapting SASS. 2 evaluation instruments were developed to evaluate the CHIS acceptability. 3 Health

Center administrators were surveyed concerning their perceptions toward the proposed system for providing complete timely and useful information for the purposes of: planning health services programs; planning health education programs; determining student health insurance needs; documenting health services utilization; epidemiological research; and communicable disease surveillance. 4 physicians and 2 nurses completed a second survey which dealt with various aspects of the data collection process and their roles and attitudes toward the proposed CHIS. The results of the study indicated that the CHIS was acceptable to administrators for all of its intended functions. The functions that were evaluated most favorably were planning health services programs and communicable disease surveillance.

333. BEERMAN, Kathy. A study to assess the relationship between varying proportions of meat in the diet and blood pressure. M.S. in Education, 1978. (D. F. Duncan)

The relationship between varying proportions of meat in the diet and blood pressure of selected individuals was assessed. In addition, this study concerned itself with the diff between the perceived intake of meat as a proportion of the diet and the actual intake of meat as a proportion of that diet. 43 non-smoking members of a food co-op served as Ss. A questionnaire was used to obtain diet histories and additional information relating to age, sex, race, level of exercise, level of salt intake, and an estimate of meat intake as a proportion of their diet. 3 BP and tricep skinfold determinations were made on each S. Among the findings of this study were: sex is the single best predictor of systolic BP; age is the single best predictor of diastolic BP; meat proportion in the diet is not a sig or reliable predictor of BP; BP tends to increase as tricep skinfold thickness increases; BP tends to decrease as the level of exercise increases; perceived intake of meat as a proportion of the diet did not differ sig from the actual proportion of meat in the diet.

334. SCHAEFER, Kathleen M. A study of the effects of death education on the death attitudes of 16-18 year olds in a suburban high school. M.S. in Education, 1978. (R. Gold)

The effect of death education on the death attitudes of the high school students enrolled in the course, "Coping with Life and Death Experiences" was compared to the death attitudes of a group of students not enrolled in such a course.

The exp group consisted of 25 Ss enrolled in the above course and the control group consisted of 26 Ss enrolled in an English elective. Both groups were given the pretest and posttest on the same days with the Death Attitude Scale developed by Dale Hardt used as the measuring instrument. The results of this study lend support to the conclusions that death education can lead to the improvement of the attitudes toward death of those students enrolled in the course as compared to those students who do not enroll and that experience with death while taking the death education course does not sig affect the resulting attitude change measured at the end of the course.

STATE UNIVERSITY OF NEW YORK AT BUFFALO (C. Meyers)

335. ENGLISH, E. B. Physical education principles of selected Italian humanists of the Quattrocento and Cinquecento: Exposition and comparison with modern principles. Ed.D. in Physical Education, 1978, 374 p. (C. Thomas)

The PE principles of 11 slected Italian humanists (1400-1599) were compared with the principles stated in the modern era textbooks of J. F. Williams, R. Frost, D. Oberteuffer and C. Ulrich, K. Bookwalter and H. VanderZwaag, and H. Barrow. It was concluded that vestiges of humanist principles were evident within the modern works in the areas of philosophical development, physical development, character development, psycho-social development, and curricular development. The data disclosed that modern PE principles exhibited evidences of humanist principles within each of the areas with the greatest no. of humanist principles found in the 5 sub-areas of curricular development. The sub-area of program practices, which contained such principles as activities for various age levels should be based on students' abilities and limitations, had the greatest no. of humanist principles. The work of Oberteuffer and Ulrich had the largest no. of humanist principles, followed in descending order by Williams, Barrow, Bookwalter and VanderZwaag, and Frost. The principles ascribed to Vittorino de Feltre appeared most frequently in the modern works. Through the sub-purposes of the study it was determined that: the cultural milieu of the period provided the impetus for humanism, and subsequently, PE; and humanist PE principles mirrored humanist educational precepts in program organization and instructional techniques.

TEXAS WOMAN'S UNIVERSITY (Marilyn Hinson)
DENTON, TEXAS

336. ADAMS, Sharon R. In memory of Degas. M.A. in Physical Education, 1978. (Lockhart)

337. BEHRENS, Pamela. A study of intragroup commonalities of women participants within selected activity centers with reference to past physical education experiences. M.A. in Physical Education, 1978. (Myers)

338. BOYD, Florita J. Changes in asthmatic children exposed to an experimental program of rope skipping and diaphragmatic breathing. M.A. in Physical Education, 1978. (Moran)

339. BRONSON, Maryhelen. Survey of the publics attitudes toward sex education. Ph.D. in Physical Education, 1978. (Merki)

340. BRUSSTAR, Lorna T. Designing and constructing costumes for modern dance. Ph.D. in Physical Education, 1978. (Lockhart)

341. COLE, Emily L. Swimming and hyperactivity: The influence of water temperatures. M.A. in Physical Education, 1978. (Sherrill)

342. DEARING, Joanne V. Influence of video taped feedback on the performance of the standing long jump by mentally retarded youth. M.A. in Physical Education, 1978. (Moran)

343. FONTES, Marcia J. Anthropometric intraclass reliability correlation coefficient tables. M.A. in Physical Education, 1978. (Lawton)

344. FUSILLO, Lisa A. Seulement deux: A classical pas de deux. M.A. in Physical Education, 1978. (Lockhart)

345. GRIFFIN, Nancy C. Changes in self-concept and muscular strength of mentally retarded males participating in a weight training program. M.A. in Physical Education, 1978. (Moran)

346. HALL, Susan J. Flexible techniques for quantitative three-dimensional cinematographic analysis. M.A. in Physical Education, 1978. (Hinson)

347. HALL, Elizabeth R. Effects of self orientation on task

completion in two experimental climates. M.A. in Physical Education, 1978. (Myers)

348. JONES, Sherry A. G. Professional preparation in physical education for the handicapped in Texas: A needs assessment. Ph.D. in Physical Education, 1978. (Sherrill)

349. KAEMPFER, Ann. Mainstreaming mentally retarded women into a community recreation program: Four case studies. M.A. in Physical Education, 1978. (Moran)

350. KASSING, Gayle I. Dance on the St. Louis Stage: 1850-1870. Ph.D. in Physical Education, 1978. (Lockhart)

351. KIRSHMAN, Linda B. The problems of obesity and the role of exercise in weight control. M.A. in Physical Education, 1978. (Mott)

352. KLYM, Maryanne. Four major choreographers of musical comedy films: 1929 - 1949. M.A. in Physical Education. (Fisk)

353. KUDLAC, Rudena S. Scoliosis: Its incidence in non-ambulatory mentally retarded persons. M.A. in Physical Education, 1978. (Sherrill)

354. LALLY, Kathleen A. A history of the federal dance theatre of the works progress administration 1935-1939. Ph.D. in Physical Education, 1978. (Lockhart)

355. LE MOAL, Danielle S. Female adolescents' definitions of leisure and work: A grounded approach. M.A. in Physical Education, 1978. (Teaff)

356. LUBIN, Ellen N. Motor creativity of preschool deaf children. Ph.D. in Physical Education, 1978. (Sherrill)

357. MAJOR, Susan V. Therapeutic recreation objectives as ranked by practitioners in settings for mentally retarded persons. M.A. in Physical Education, 1978. (Teaff)

358. MARTIN, Vicki L. A cine-dance work. Ph.Ed. in Physical Education, 1978. (Lockhart)

359. NESTROY, Terry A. *Fitness levels of children taught by the physical education specialist and classroom teachers*. M.A. in Physical Education, 1978 (Moran)

360. OESS, Darlene J. *The mat kip as a progressive step toward the performance of the glide kip on the uneven parallel bars: A cinematographic study*. M.A. in Physical education, 1978. (Hinson)

361. PFEIL, Sue B. *The crime of rape: A social dilemma*. M.A. in Physical Education, 1978. (Merki)

362. POPE, Carol J. *A biomechanical analysis of the running patterns of moderately mentally retarded down's syndrome individuals*. M.A. in Physical Education, 1978. (Hinson)

363. POUNDER, Marsha D. *Ozark spirits echoing: Yesterday-today-forever*. M.A. in Physical Education, 1978. (Fisk)

364. RALLIS, Karen E. *Performances of professional dance artists at the Texas Woman's University, Denton, Texas from 1926-1977*. M.A. in Physical Education. (Lockhart)

365. ROUTON, Lauren G. *Elizabeth Hannah Waters: Dancer, choreographer, teacher 1910-1977*. M.A. in Physical Education, 1977. (Lockhart)

366. RUSSELL, Karen D. *Caricature*. M.A. in Physical Education, 1978. (Lockhart)

367. SHEA, Ann K. *A contemporary dance in three episodes*: *Gathering into barns*. M.A. in Physical Education, 1978. (Lockhart)

368. UDOVICH, David A. *Self concept and physical fitness of learning disabled children*. M.A. in Physical Education. (Moran)

369. WASSER, Beverly R. *The relationship between frequent problems of substitute teachers in elementary schools and selected characteristics of substitute teachers in a metroplex independent school district*. M.A. in Physical Education, 1978. (Fisk)

370. WYATT, E. Jane. *A college course entitled health concepts and physical fitness activities for women*. M.A. in Physical Education, 1978. (Tandy)

UNIVERSITY OF ARKANSAS (G. Moore)
FAYETTEVILLE, ARKANSAS

371. GORDON, P. A. Prediction of basketball playing ability of college women by selected tests. Ed.D. in Physical Education, 1978, 88 p. (G. C. Moore)
Basketball playing ability was predicted from: cardiovascular capacity, leg power, upper body strength and endurance, body composition, and body ht. Ss were 20 women varsity basketball players from 2 colleges, 10 from each college. Field tests were selected and administered for each of the variables. Reliability was determined by test-retest procedure on 6 randomly selected Ss. Separate prediction equations were developed for 5 criterion measures: an ability rating consisting of 4 offensive-defensive descriptive terms, the Tutko-Richards General Personality Rating, a composite score of the 2 measures, the Noll Comparative Rating Scale which utilized game statistics, and a ranking of the players by the coach. The data were analyzed by the Step-Wise Multiple Regression Program. The best prediction equation was found to be: Basketball Ability = 9.053 + 1.364 (12 min run) - 0.113 ht.

372. HORTON, D. An evaluation of the physical education programs in the community colleges in Arkansas. Ed.D. in Physical Education, 1978, 155 p. (G. C. Moore)
The PE programs of the 6 state community colleges in AR were evaluated using the Neilson-Comer-Allsen Score Card. Areas evaluated were: instructional staff, facilities, program organization, program activities, professional assistance, and the teacher education program. 1 day was spent on each campus gathering data with the assistance of the dept head the the PE instructors. Results indicated limited activities offered by several colleges, professional assistance was rated above average, adequate indoor and outdoor facilities lacking, and the teacher education program was rated poor.

373. KREBBS, P. S. The effects of exercise training and/or lecithin supplement upon serum cholesterol, triglycerides, and beta lipoproteins. Ed.D. in Physical Education, 1978, 110 p. (G. C. Moore)
Ss were 43 female college students (18-26 yrs) divided into exercise and control groups and matched on serum cholesterol, serum triglycerides, and beta lipoprotein levels. Throughout the 10 wks of the experiment, half of the exercise group and

half of the control group received a 19 grain capsule of lecithin. The remainins Ss received a placebo. A double blind method was used to administer the supplements. The exercise group exercised 30 min a day on a bicycle ergometer, 5 days a wk, for 10 wks. All Ss were given a max stress test on the bicycle ergometer at the beginning and at the end of the study. Blood samples were taken on alternate weeks throughout the study. ANOVA was used to compare the four groups. The dependent t was used to evaluate changes within groups. Conclusions were: exercise, as in the study, does not reduce the blood lipids examined; a supplement of lecithin does not produce significant reductions in the blood lipids examined; a combination of exercise and lecithin supplements does not produce significant changes over controls in the blood lipids examined.

374. MARTIN, W. Y. An evaluation of the professional preparation curriculum of the Department of Health, Physical Education and Recreation at Harding College. Ed.D. in Physical Education, 1978, 170 p. (R. R. Ryan)
The curriculum in HPER at Harding College, AR, was evaluated based on ratings of recent graduates. The basic purposes were to determine the value and adequacy of the professional preparation program to ascertain its strengths and weaknesses. Ss were 110 graduates from the yrs 1970-75. The questionnaire had 3 major sections: personal data (minor fields, graduate work, membership in professional organizations); employment information (current position, level of instruction, additional training required); evaluations (objectives, philosophies, courses, duties, curriculum). Comparisons were made of the evaluations by 1970-72 graduates with 1973-75 graduates, and men with women. Strengths and weaknesses were identified and suggestions for change summarized.

375. MILLER, E. M. The effects of hemoglobin supplements upon maximal oxygen uptake in females. Ed.D. in Physical Education, 1978, 114 p. (F. Wood)
Ss were 21 volunteer female middle distance runners divided into 2 groups. Groups were matched on max VO_2 and blood chemistry profiles. The exp group received a bovine heme-iron supplement and the control group a placebo. The study design was double-blind. During the 8 wks of the study, all Ss trained by running a minimum of 20 miles per wk. The pre and post measurements were max VO_2 on a bicycle ergometer and blood chemistry values for hemoglobin, hematocrit, sugar, triglycerides, cholesterol, serum iron, and total iron binding capacity, albumen, and protein. The blood measures were

obtained on a wkly basis. ANOVA and t were used for comparisons. Step-Wise Multiple Regression was used to determine if the blood chemistry profile was able to predict post max VO_2. Conclusions were that heme-iron supplement does not sig affect max VO_2 of female distance runners, blood chemistry values do not effectively predict max VO_2, endurance training causes an increase in albumen concentration, and an heme-iron supplement does not produce consistent changes in blood chemistry.

376. RICHARDSON, J. A. Anxiety and energy expenditure in modern dance. Ed.D. in Physical Education, 1978, 68 p. (G. C. Moore)

The study attempted to determine: the energy expenditure of 7 females while performing in a modern dance recital, the relationship between Palmar Sweat Index scores and HR prior to the performance, and the changes in HR and VO_2 from rehearsal to performance. Ss were 7 members of a University dance program. All were experienced dancers averaging 4.3 yrs experience. Preparation for the recital had been in progress for 3 mos prior to the beginning of the study. Measures taken were max VO_2 using a bicycle ergometer prior to rehearsal, HR during rehearsal and performance, and enumeration of open sweat pores using the Palmar Sweat Index before each performance. The mean energy expenditure, using Weir's formula, was .115 kilocalories per min per kg for rehearsal and .137 for performance which was rated as "heavy" work. HR correlated from .65 to .88 with Palmar sweat index scores. VO_2 sig increased from rehearsal to performance.

377. STUBBS, S. T. The attitudes of selected male college athletes and coaches toward the values of athletic participation. Ed.D. in Physical Education, 1978, 182p. (R. R. Ryan)

Ss were 546 male varsity athletes and 35 male coaches from 5 sports at 6 institutions of the Pacific Coast AA. Attitudes toward the values of athletic participation were collected by a 12-item personal inventory and a 37-item attitudinal inventory. Both were developed for the study with validity proven by both construct and content methods and reliability by test-retest (r=.90). The data were analyzed separately for coaches and players and for the 5 sports as well as for won-loss record, starter/nonstarter, educational level, and letter winner/non-letter winner. Conclusions were that present day athletes and coaches possess an overall favorable attitude toward the expressed values of athletic participation with more favorable attitudes toward self-concept and character development values, social and moral values, and general values. Sig less favorable attitudes found toward the intellectual, cultural, and aesthetic values. Athletes in tennis and baseball possess sig more favorable overall attitudes toward these values than those in football and basketball.

UNIVERSITY OF BRITISH COLUMBIA (Gary D. Sinclair)
VANCOUVER, CANADA

378. CHAMBERLIN, C. J. The effect of changing task complexity on the psychological refractory period. M.P.E., 1979, 69 p. (G. D. Sinclair)
By manipulating the relative complexity of each response in a psychological refractory period paradigm, it was hoped that a distinction would be made between serial and parallel models of information processing. 2 exps were performed with 14 right-handed male Ss/exp, the apparatus used was a RT device consisting primarily of a joy stick set into a diamond shaped opening cut in a table top and a hand held response button. In exp 1, the complexity of the 2nd response was manipulated and in exp 2 the complexity of the 1st response was manipulated. Results generally supported a serial processing model, such as the one proposed by Welford (1967). Changing the complexity of the 2nd response had no effect on the RT to the first stimulus, also, changing the complexity of the 1st response increased the delay in responding to the 2nd signal. The existence of an additional delay in responding to the 2nd signal, possibly due to a fb or attention-paying element, was shown by the data. However, practicing the 1st task in exp 2 did not reduce this additional delay. It was concluded that increasing tax complexity may not always have a corresponding increase in RT and that subjective response strategy could possibly produce either serial or parallel processing artifacts thereby indicating that a more flexible model rather than the restrictive serial or parallel model is needed.

379. GOLDSMID, B. C. The effects of electrical stimulation on muscular strength and endurance of the extensor muscles of the hand. M.P.E., 1978, 68 p. (K. D. Coutts)
24 university students were dived into 3 treatment groups based on the MVC of static hand extension. All Ss were trained with the hand flexed to 150° with respect to the forearm. Group 1 received 5 min of electrical stimulation just below pain threshold 5 days per wk for 4 wks, and group

2 performed 4 sets of 8 MVC held for 2 secs 3 days per wk for 4 wks. ANOVA indicated (p .05) that strength gains occurred in all groups after 2 to 4 wks at both angles. From 2 to 4 wks only group 3 at 150° showed strength gains, while groups 1 and 3 had gains at 180°. No sig changes in relative stimulation and voluntary contractions elicited similar strength and endurance changes with no indication that the 2 training methods were additive.

380. MICHELITSCH, K. R. The effects of repeated viewings on the accuracy of judging selected gymnastics events. M.P.E., 1978, 84 p. (G. D. Sinclair)
The study attempted to determine: if the accuracy of the judges' scores improved with repeated viewings of the same routines; the no. of repeated viewings required to optimally improve the scorer's accuracy; and the relationship between the no. of viewings established and the participating judges' levels of proficiency. Criterion scores for 4 selected vault performances and 4 selected optional uneven parallel bars routines were established by 2 women's gymnastics judges, 1 of national and 1 of international certification ranking. 4 treatment conditions were established, each having a diff foutine shown 1, 2, 3, or 4 times. 8 regional and 8 national judges were presented with the vault and bars test videotapes; all judges viewed the same treatments but the presentation order was determined by the Latin Square design. The judges recorded their deductions from each vault performance and their values for each of the component part scores for each bars performance. The investigator tabulated the final scores for each event and calculated the absolute deviations of the exp scores from their respective criterion scores. The results indicate that scores for vault become more accurate with repeated viewings and that uneven bars scoring, though reasonably accurate after a single viewing, improved in terms of reduced variability after more than 1 viewing. The increased accuracy in scores implies that repeated viewings reduce the limiting effects of human information processing capacities on judges' scoring accuracy. No sig diffs were found between judges of regional and national proficiency levels.

UNIVERSITY OF CALIFORNIA (M. L. Novie)
BERKELEY, CA

381. BERGEL, R. R. Motor performance abilities and perceptual motor functions of four and five year old project headstart and non-project headstart preschool children:

A factor for analytic study. Ph.D. in Education, 1977, 98 p. (G. L. Rarick)

382. DIVINE-PATCH, L. Pulse infusion studies in the effects of training on lactate oxidation in exercise. M.A. in Physical Education, 1977, 114 p. (G. A. Brooks)

383. DUMMER, G. M. Information processing in the acquisition of motor skills by mentally retarded children. Ph.D. in Education, 1978, 158 p. (G. L. Rarick)

384. GAESSER, G. A. Gluconeogenesis and glycogen resynthesis following exercise to exhaustion. Ph.D. in Education, 1978, 372 p. (G. A. Brooks)

385. JOHNSON, C. G. Transfer and retention of coincidence timing skill. Ph.D. in Education, 1978, 122 p. (M. L. Norrie)

386. MARQUARDT, R. C. Performance, learning, and retention of a novel gross motor skill by trainable mentally retarded male adolescents following varying amounts of practice. Ed.D. in Physical Education, 1977. (G. L. Rarick)

387. SEGAL, S. Post-exercise VO_2 kinetics: Effects of glycogen availability and exercise intensity. M.A. in Physical Education, 1978, 44 p. (G. A. Brooks)

388. WHITE, Timothy P. Influence of metabolic rate upon the metabolism of lactic acid and the oxidation of glucose, alanine, and leucine. Ph.D. in Physical Education, 1977, 288 p. (George A. Brooks)

The calorimeter was used to test the traditional concept that when caloric supply is adequate, the metabolic demands of exercise are met by catabolism of carbohydrates and lipids. Using pulse infusions of ^{14}C-tracers in female Wistar rats, the influences of metabolic rate upon the oxidations of glucose, alanine, and leucine were studied. Data obtained are the first to indicate that metabolism of selected amino acids is integrally linked to the energy transductions contributing to carbon flow sustaining physical exercise in vivo. The ability to expand alanine oxidation appears limited and saturated even during mild exercise. These data indicate that reevaluation of traditional views of amino acid utilization in exercise is required. The third major focus of this research was to investigate the influence of metabolic rate upon lactic acid metabolism during exercise, using pulse infusions of (U-^{14}C)-lactate at rest and during easy and hard treadmill running. The results indicate that lactate oxidation and turnover are directly related to lactate concentration. A divergence appears between turnover and oxidation rates as lactate concentration increases in response to physical exercise. The significance of these findings are discussed in regard to the integration of lactate with the overall carbon flow during exercise, and the energetics of muscular work.

UNIVERSITY OF COLORADO (Dale Mood)
BOULDER, COLORADO

389. BERGE, Collette. An attitudinal study of alpine ski lessons at copper mountain. M.S. in Physical Education, 1978, 144 p. (Don Parkin)

390. BLUM, Ellen. Personality and coaching success of selected coaches of women's basketball teams during the 1975-1976 season. M.S. in Physical Education, 1978, 51 p. (Fred Murphy)

391. COLLOPY, Eileen. Acquisition and allocation of funding for women's intercollegiate athletic programs in the big 8 region. M.S. in Physical Education, 1978, 98 p. (Fred Murphy)

392. COULTER, Keith. Achievement motivation and performance increases on a measure of strength. M.S. in Physical Education, 1978, 89 p. (Dale Mood)

393. GIVI, Masoud. Zour Khaneh: The traditional Iranian athletic club. M.S. in Physical Education, 1978, 67 p. (Fred Murphy)

394. HANSON, Jan. The effect of autogenic therapy on a successful gross motor task. M.S. in Physical Education, 1978, 46 p. (John Shea)

395. LaBARGE, PEGGY. Measure of leg muscular endurance of alpine ski racers. M.S. in Physical Education, 1978, 51 p. (Emily Haymes)

396. LISEHORA, Barbara. Attitudes toward physical activity of intercollegiate field hockey teams in Colorado. M.S. in Physical Education, 1978, 46 p. (Fred Murphy)

397. WUGHALTER, Emily. Task complexity and contextual interference as factors in intertask transfer of motor skills. M.S. in Physical Education, 1978, 174 p. (John Shea)

398. YOUNG, Diane. State anxiety alteration in women using long slow distance running. M.S. in Physical Education, 1978, 75 p. (Marshall Banks)

399. ZOTOS, Connee. A comparison of self-concept between female team sport participants and female aesthetic sports participants. M.S. in Physical Education, 1978, 52 p. (Emily Haymes)

UNIVERSITY OF HOUSTON (T. L. Bain)
HOUSTON, TEXAS

400. LAIRD, Nancy L. The evolution of competitive running programs for women in the United States. Ed.D. in Education, 1978, 139 p. (H. P. Poindexter)

The forces which have affected the development of competitive sports for women in the United States and trace the growth and progress of women's middle distance track programs and the opportunities for women to compete in cross-country and distance running events were identified in 4 broad areas: sociocultural, educational, economic, and political. The investigation was needed in order to convey a greater understanding of the continued expansion of competitive opportunities for women in athletics, to contribute to the image of women's distance running as a legitimate athletic activity, and to stimulate more interest in program building, to provide a timely link with the growing interest in women's athletics, to convey an awareness of women's distance running programs in the U.S. and to give recognition to an improved level of American participation in international competition, to make one aware of the changes in the law that have permitted an expansion of women's participation in competitive athletics, and to emphasize the awareness of broadening roles and opportunities for women in careers related to athletics.

401. ROBINS, T. W. A comparison of the effects of two instructional methods on the acquisition of skills in beginning swimming. Ed.D. in Physical Education, 1978, 101 p. (Barry C. Pelton)

The use of commercial training devices and their effects upon aquatic skill acquisition was investigated. A sample of 20 males and 46 females, mean age 21, were pre-tested and identified as non-swimmers. Ss were tested for floating ability. Floaters and non-floaters were equally assigned randomly to exp and control groups. The exp group was taught by a modified method utilizing commercial training aids, while the control group was taught by the Red Cross Method for beginners. The duration of the exp was 9 wks. Groups met 3 times a wk for 60 min. The Hewitt Swimming Scale, used to test the dependent variable (swimming achievement), included (a) a timed 25 yd crawl swim, and (b) stroke count of a 25 yd elementary backstroke swim. Multivariate and univariate tests were used to assess diffs between groups in regard to treatment, floating ability, school, and interaction. r were calculated between the various variables. Multivariate F tests for floating ability and school were sig but were insig for treatment and interaction. Univariate F tests were sig for the elementary backstroke and school. Based upon the findings, the modified teaching model was not superior to the Red Cross model. Floating ability was an advantage when performing the elementary backstroke.

402. SHOTWELL, F. L. The relationships between the ten factors of Cattell's Motivation Analysis Test and estimated aerobic power. Ed.D. in Health and Physical Education, 1978, 174 p. (B. C. Pelton)

The need for increased understanding of the relationships between motivation and physical fitness was identified. In response, a study was conducted with the purpose of assessing the relationships between estimated VO_2 max and each of Cattell's factors of motivation. A secondary purpose was to assess the relationships between estimated VO_2 max and the most predictive combinations of Cattell's factors of motivation. Volunteering as Ss for the study were 111 adult male Caucasians (ages 19 to 73; $\overline{X} = 34.9$; SD = 10.3) who were members of the Downtown Branch YMCA in Houston, TX. A submaximal exercise test of graded treadmill walking was administered for the purpose of estimating VO_2 max. Cattell's MAT was administered for the purpose of deriving a score for each of the 10 factor components of attitude motivation. The data were obtained during a single 2-hr test administration session for each S so that a period of 4 mos was required for the testing of all Ss. Pearson product-moment r and multiple regression statistical techniques were performed upon the reliable data. For all practical purposes, no statistically sig relationships were found between estimated VO_2 and any of Cattell's factors of motivation.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAGNE
URBANA, ILLINOIS

403. DaGIAU, Robert F. The relationship between exposure time and injury in football. M.A. in Physical Education, 1978, 59 p. (C. Dillman)

This study investigated the relationship between exposure time and injury in football and to identify the trends associated with these relationships. Data were collected at all practice sessions and games participated in by the University of Illinois varsity football team during the 1976 and 1977 seasons. Ss consisted of the varsity football team. The 54 member traveling squad were the Ss used in the collection of game and injury data. Games were divided into 3 intervals and practice into five 25 min. intervals in order to analyze the data. A likelihood ratio test was used to test the data for statistical sig. An inverse relationship was found between exposure time and injuries for game data for both years. A curvilinear relationship, slightly skewed to the right, was found between exposure time and injury for the practice data for both seasons.

404. DIEZ, Elizabeth D. Relation of anthropometric measures to body fatness in college-age women. M.S. in Physical Education, 1978, 86 p. (R. Boileau)

The relationship among selected anthropometric variables and relative body fat was investigated in college-age women. The Ss were (n=54) enrolled in PE classes at the U. of I. % body fat was estimated by densitometry using underwater wt and by gamma ray spectrometry using potassium-40 count. 8 skinfold sites, 8 body circumferences, and 7 body diameters were evaluated as predictors of body density. 2 body circumferences were (forearm and hip), 4 skinfold sites (upper arm, side, waist, and calf), and 1 body diameter (ankles were found to be the best indicator of body density and relative body fat estimated from body density and body potassium methods accounting for about 79% of the variance in % fat). Prediction equations based on these measurements were developed for each method. Validation of other equations on the present group of Ss resulted in an overestimation of body density and thus on underestimation of % fat by 2 to 4%. Moderate r were shown between the actual and predicted values of % fat for both body density and body potassium with standard errors of estimate in % fat ranging from 2.8 to 3.1% (density) and 4.8 to 5.6% (potassium). The results indicate that simple anthropometric measurements can be used to predict body density and body fat in college-age women

(Se = 2.1%) but that the use of regression equations developed on other samples of college women are somewhat less predictive of fat content (42 to 55% accounted for in variance of fat).

405. DRAGICEVIC, Jessica. A comparative analysis on policy making of the two national sports organizations in Chile - the organizational structure, executives, and goals. M.S. in Physical Education, 1978, 140 p. (G. Lueschen)

The policies and system performance of the two national sports organizations in Chile (DIGEDER and COCh), comparing their structure, goals, and policies, were studied based on the analysis of documents related to the sports organizations in the country. These were the organizations that control PE and sports throughout the country: the General Dept. of Sports and Rec. (DIGEDER) and the Chilean Olympic Committee (COCh). The analysis of policies and system performance of DIGEDER and COCh was done applying the four constructs proposed by Lueschen, which pertain to the analysis and evaluation of the policies and performance of sports organizations. These four constructs are effectivensss, efficiency, fidelity, and responsiveness. DIGEDER showed high ratings in all four constructs while COCh showed responsiveness to the government and to the membership.

406. GOULD, Daniel R. The influence of motor task types on model effectiveness. Ph.D. in Physical Education, 1978, 146 p. (R. Martens)

A series of 3 experiments was conducted as an initial phase of a long-range research program designed to identify motor task properties which will determine types of tasks that are more readily learned through modeling. These experiments each consisted of the same Sex x Model x Blocks (2 x 2 x 10) repeated measures factorial design with a diff task used in each exp. The tasks used varied on their information load and component movement pattern novely - 2 task properties which were identified as probable determinants of model effectiveness. The results, while not entirely in agreement with the stated hypotheses, revealed that the effect of observing a model on motor skill acquisition is clearly task specific. Moreover, the findings suggest that the information-load and component-movement-novelty task properties appear to influence model effectiveness. It was concluded that a continuation of this research program is essential for increasing the understanding of the modeling process.

407. MAY, Barry R. A study of Herzberg's motivation-hygiene theory of job satisfaction as it relates to academic personnel in selected small liberal arts colleges. Ph.D. in Physical Education, 1978, 82 p. (R. G. Wright)

Investigating the Herzberg Motivation-Hygiene Theory relating to job satisfaction and dissatisfaction of academic personnel at selected small liberal arts colleges, by determining the relationship between the satisfaction and dissatisfaction factors thought to be important by the academic personnel and the following demographic variables: age, sex, highest degree held, yrs in higher education, yrs of service at present institution, present academic rank, tenure status, type of position held, academic division, and administrative level-cabinet level versus supportive level. Also to determine if the factors of Herzberg's Motivation-Hygiene Theory relating to job satisfaction and dissatisfaction were the same as those associated in this investigation and to determine the relationship between the types of critical incidents described by the academic personnel for the satisfying and dissatisfying experiences and the above demographic variables. The Ss were for 8 regionally accredited institutions of higher learning. The sample consisted of 345 Ss or 69.4% who returned usable questionnaires. Each S was asked to describe an incident or sequence of events, and then to indicate the importance attributed to each of the 16 factors as sources of satisfaction or dissatisfaction. The 3 highest ranking factors for the satisfying experiences were work itself, achievement, and interpersonal relations (subordinates). The 4 most important dissatisfiers for the academic personnel were lack of achievement, policy and administration, lack of recognition, and personal life. Sig diffs appeared between all 16 sources of job satisfaction and dissatisfaction considered to be important by the academic personnel. In comparing the several demographic variables with the sources of job satisfaction and dissatisfaction, 19.1% (61 of the 320 possibilities) were found to have sig diffs. In comparing the demographic variables with the types of critical incidents for the satisfying and dissatisfying experiences, 11 of the 20 possibilities (55%) were found to have sig diff. Based upon the findings of this study, only partial support for the Herzberg Motivation-Hygiene Theory can be expressed for the Ss in this investigation.

408. McLOUGHLIN, Thomas M. Load sharing in the forearm muscles prior to impact in tennis backhand strokes. Ph.D. in Physical Education, 1978, 222 p. (C. Dillman)

This investigation determined the force distribution in the forearm muscles prior to impact during two types of tennis backhand strokes as performed by a professional tennis player. 2 trials each of the S's normal as well as simulated beginner, or "leading elbow," backhand strokes were selected for detailed analysis. Newly developed techniques incorporating high-speed, 3-dimensional cinematography, an instrumented tennis racket, spatial kinematic methods, and musculoskeletal modeling were utilized in the solution. Analysis focused on the period 9.3 to 12.4 ms prior to impact in all strokes. The grip forces, inertial effects of the swing, and weight and orientation of the racket were major determinants for involvement of the forearm extensor muscles. In the simulated beginner strokes there was half the level of force in gripping the racket, more wrist flexor involvement, and a greater proportion of force in the extensors on the ulnar side of the forearm than in the regular backhand strokes. In all trials and both types of strokes the extensor muscles on the radial side of the forearm were very heavily stressed prior to impact. The findings of this study thus provide further insight into the nature of tennis elbow (lateral epicondylitis).

409. OMO-OSAGIE, Anthony I. An analysis of the attitudes of faculty and students of the University of Lagos toward interuniversity games at the University of Lagos, Nigeria. Ph.D. in Physical Education, 1978, 119 p. (D. Matthews)

The attitudes of faculty and students of the University of Lagos toward the interuniversity games at the University of Lago, Lago, Nigeria were analyzed as the following subproblems were investigated: What are the evaluative, belief, and attitude scores of faculty and students of the University of Lagos toward interuniversity games? How do the evaluative, belief, and attitude scores of faculty and students compare? The descriptive research technique was employed in the study. The instrument utilized to gather the data was a questionnaire designed by the investigator based on the Fishbein's Expentancy-Value Model for assessing attitude. The questionnaire addressed the evaluative dimension of a belief about an object and with the nature of the existence of that object. The produce of these was defined as the attitude of the individual. A total of 350 questionnaires were sent out to faculty and students. A return of 291 (83.1%) was received, i.e., 103 (68.7%) from the faculty and 188 (94%) from students. The $\overline{X}$ scores, t-values, and standard deviations were computed for various components within and between faculty and S(s) groups. The test of sig was set at .05 level for a type I error, and the comparisons were always limited to the number of categories minus one to avoid increasing the type I error. The findings include the following: There was a sig diff between the professors and lecturers in the finance aspect. In this aspect the professors were more supportive. There was sig diff between those faculty members who obtained their first degrees in Britain and Nigeria versus all others who obtained their first degrees from other countries. The diff was in the social role of interuniversity games. The undergraduate students were sig diff from the graduates in the admission aspect. Faculty and undergraduate students differed sig in the academic aspect. Graduates and faculty were sig diff in the admission and finance aspects. There was evidence of more variability in high standard deviations in the admission and social aspects than the academic and finance aspects. Both the faculty and students tended to favor the social aspect of the interuniversity games the most. The students have more favorable attitude toward interuniversity games at the University of Lagos than faculty.

410. ROBERTSON, Loarn D. A dynamic muscular profile of bilateral leg extension and flexion for two levels of human activity. Ph.D. in Physical Education, 1978, 146 p. (C. Dillman)

The purpose of this study was to investigate the effect of different levels of athletic participation on muscular working capacity of the leg extensors and flexors, and to determine which anthropometric and athletic inventory factors best predicted muscular working capacity in leg extension, flexion, and the relative ipsilateral balance of work production (flexion over extension work output expressed as a ratio) for young male athletes. It was hypothesized that variations in muscular working capacity of the extensors and flexors were related to physical activity levels, and muscular working capacity in the leg could be predicted with accuracy from anthropometric and selected athletic inventory variables. Male volunteers (N=39) from sports requiring greater than a moderate amount of strength and endurance were categorized as activity level 1; and Ss from sports requiring equal to or less than a moderate amount of strength and endurance as activity level 2. It was concluded that athletes in activity level 1 exhibited greater muscular working capacity in extension of the right leg than athletes in activity level 2, and anthropometric and selected athletic inventory variables contributed moderately to preduction equations of muscular working capacity and ratios.

411. STEGER, Jack M. *A comparative analysis of the athletic conferences of the national collegiate athletic association*. Ph.D. in Physical Education, 1978, 288 p. (R. G. Wright)

The voting converences of the NCAA were analyzed and compared through the use of a framework modified from Parsons, and McDonough and Garrett that delineates a series of categories within which the structural and functional characteristics are viewed. Commissioners and presidents from 39 of the 42 conferences participated in the study (93%). Data from questionnaires and conference documents revealed that organizational goals in the 3 divisions are similar, but the arrangement and makeup of governing bodies are quite varied, and students are seldom a part of the governance. Institutional presidents are most often involved by appointing representatives to the conference. The majority of the management and control tasks are performed by the commissioners in Divisions I and II and by the athletic directors in Division III. Conference policies/rules for governing the athletes' participation closely follow those set forth by the NCAA with Division III converences showing the most variation. The greatest problems facing the conferences are promotion and publicity; rule compliance and changes; and improvement of their financial situation.

412. WIRTH, John C. *The relationship of static muscle strength and endurance with the use of oral contraceptives, phase of the menstrual cycle, and vitamin B-6 status*. Ph.D. in Physical Education, 1978, 168 p. (T. Lohman)

This study investigated the effects of use of oral contraceptive agents (OCA), phase of the menstrual cycle, and vitamin B-6 status on muscle strength and endurance. 26 college age females representing 3 groups (1 = non-users of OCA or vitamin B-6, ilel, normals; 2 = users of OCA only; 3 = users of OCA and daily vitamin B-6 supplements) were tested for static grip strength (MVC), static sustained muscle endurance at 50% MVC with circulation occluded, total force output during the endurance task, 24-hour xanthurenic acid (XA) excretion following a 2.0g load of L-tryptophan, and 24-hour 4-pyridoxic acid (4-PA) excretion during both the early follicular phase (day 8 ±) and luteal phase (day 21 ± 3) of the consecutive menstrual cycles. During the last 2 cycles, a placebo-vitamin (25mg vitamin B-6/day) treatment was administered in a mixed sequence, double-blind fashion. Muscle endurance appeared to be affected by use of OCA; but, this effect did not appear to be related to vitamin B-6 status. However, vitamin B-6 supplementation did appear to improve muscle endurance but this effect was related to the sequence of treatment and phase of the menstrual cycle.

THE UNIVERSITY OF IOWA (L. E. Alley)
IOWA CITY, IA

413. CARTER, C. L. *Aortic blood flow velocity during exercise in man*. Ph.D. in Physical Education, 1978, 205 p. (L. R. Amundsen)

Ss (13) while positioned 30° with the horizontal pedaled a bicycle ergometer at 20%, 40%, 60%, and 80% of maximal VO_2 determined at a previous session. Utilizing a doppler system capable of measuring flow velocities in excess of 100 cm/sec, the backscattered frequency spectra of both forward and reverse aortic flow from the suprasternal notch were recorded on an FM tape recorder. The spectra were processed by discrete spectral analysis to 70mm film and then digitized by projection on a precision rear screen projector. Two of the parameters studied, acceleration and peak flow velocity, were reliable at all work levels. Acceleration increased from 10.8 ± 1.77 m/sec^2 to 30 ± 9.97 m/sec^2 at 80% of maximal aerobic power; peak flow velocity increased from $.861 \pm .145$ m/s to $1.48 \pm .228$ m/s. Both parameters correlated with % maximal workload produced an R^2 of .85. The findings clearly suggest the use of velocity measurements of aortic flow during graded exercise as a clinical tool.

414. HINRICHS, R. N. *Principal axes and movements of the human body: An investigation of the stability of rotary motions*. M.A. in Physical Education, 1978, 97 p. (J. G. Andrews)

A generalized computational procedure to determine the central inertial properties of a human body in any configuration, including the principal movements and axes of intertia, was developed. In conjunction with 3D cinematography, the procedure was used to determine the inertial characteristics of 1 S throughout various somersaulting maneuvers. The magnitudes of the central principle movements (PMIs) and the corresponding orientations of the 3 central principal axes of inertia (CPAIs) were examined. In the backward somersault, small corrective movements were necessary to keep the angular velocity vector parallel to the intermediate CPAI. In forward somersaults in the tuck and pike positions, small changes in body configuration produced large changes in the orientations of the intermediate and maximum CPAIs.

415. WILSON, N. C. E. Effect of exercising rats during pregnancy. Ph.D. in Physical Education, 1978, 155 p. (C. V. Gisolfi)

40-day-old female Sprague/Dawley rats were randomly assigned to groups: Trained-Nontrained (T-NT) rats ran at 35 m/min for 1 hr, 6 days/wk, for 7 wks prior to pregnancy, but did not exercise during pregnancy; Trained-Trained (T-T) ran at 35 m/min for 1 hr, 6 days/wk, for 7 wks prior to pregnancy and 32 m/min for 1 hr, 7 days/wk during pregnancy; control (C) animals did not exercise before or during pregnancy; Nontrained-Trained (NT-T) trained at 16 m/min for 1 hr, 7 days/wk during pregnancy. Myocardial blood flow, fiber area, capillary density, and fiber capillary density ration were determined on 45-65 day-old offspring, as was VO_2, organ wts, and body lengths, to assess the effects of maternal exercise during pregnancy on the offspring. Mild or heavy exercise did not influence the (a) innate maximal VO_2, (b) myocardial circulation in response to stress, or (c) cardiac structure of the offspring. High intensity exercise during pregnancy was associated with an increase in infant mortality during weaning.

416. WILSON, B. D. Knee ligament length changes during walking. Ph.D. in Physical Education, 1978, 272 p. (J. G. Hay and J. G. Andrews)

The lengths, and the rate of change of lengths, were determined for functional components of the cruciates and collateral ligaments, and for the medial, lateral, and posterior capsule. Length was defined as the distance between attachment sites. During a walking cycle, 3-D coordinates of 3 points fixed to each the upper leg and the lower leg were recorded. The location of these joints relative to easily identifiable bony landmarks were determined from 3-D radiographs. The attachment sites of the ligaments and capsule were predicted from the location of these bony landmarks with equations based on data collected from 10 knee specimens. Ligaments were generally at or near their max lengths preceding toe-off and at full knee extension preceding heel-strike. Max and minimum rates of change in length did not occur where the ligaments were within 5% of their max lengths. In some cases, pairs of ligaments or pre-defined functional components of ligaments were found to act as functional units.

UNIVERSITY OF KANSAS (J. L. Pyfer)
LAWRENCE, KANSAS

417. ARTMAN, Deborah. A comparison of hand-eye and foot-eye reaction time among 12 year-old boys and 12 year-old girls. M.S. in Education, 1977, 83 p. (Wayne Osness)

418. BASSHAM, Kathleen. The mechanical and physical properties of four types of rock climbing ropes and the relationships between some of these properties. M.S. in Education, 1978, 148 p. (Jean L. Pyfer)

419. BOWEN, Cinda. A validity study of recommended activities for body image development. M.S. in Education, 1978, 142 p. (Jean L. Pyfer)

420. DORSEY, Elaine M. A comparison of birth weight, gestation period, birth length, and reflex development of clinically tested children. M.S. in Education, 1978, 70 p. (Jean L. Pyfer)

421. EDMONSTON, Connie. Clarification of the values held for intramural activities by intramural participants. M.S. in Education, 1977, 91 p. (L. Marlene Mawson)

422. EDMONSTON, Craig. Professionalization of attitude toward play of intramural basketball participants. M.S. in Education, 1978, 87 p. (L. Marlene Mawson)

423. FANKHAUSER, Nancy. An analysis of female high school athletes' real and ideal perceptions of their volleyball coaches. M.S. in Education, 1978, 158 p. (L. Marlene Mawson)

424. HAMMOND, Roger E. A survey of the space allocations of the indoor physical education facilities of the class five-A high schools of Kansas. M.S. in Education, 1977, 105 p. (Walter Mikols)

425. HAYFORD, Richard M., Jr. Motor fitness characteristics of University of Kansas students. M.S. in Education, 1978, 82 p. (Walter Mikols)

426. HITE, Cheryl L. A comparative study of perceptual motor problems in four different environmental school settings. M.S. in Education, 1978, 113 p. (Jean L. Pyfer)

427. HOPKINS, Nancy J. B. A cinematographical analysis and comparison of batting sequences in fast pitch and slow

pitch softball. M.S. in Education, 97 p. (Carole Zebas)

428. INTFEN, Christopher C. A comparison of physical fitness levels of eighth-grade boys in public and private schools using fitness components of the Texas Physical Fitness Motor Ability Test. M.S. in Education, 1979, 62 p. (Walter Mikols)

429. MARKERT, Jane E. The body composition of female athletes. Ed.D. in Education, 1978, 189 p. (Wayne Osness)

430. MONTGOMERY, Harold L. The effects of exercise and testosterone on skeletal muscle fibers of mice. M.S. in Education, 1977, 56 p. (Wayne Osness)

431. MORGAN, John S. A survey of weight training facilities and equipment of major university football programs. M.S. in Education, 1978, 65 p. (Carole J. Zebas)

432. SIMMONS, Patrick D. The prediction of VO_2 max by submaximal testing in college females. M.S. in Physical Education, 1978, 135 p. (Tom R. Thomas)

433. WASHINGTON, Marian E. A study of the effectiveness of a structural weight training and aerobic conditioning program for women in relationship to physical fitness. M.S. in Physical Science, 1978, 94 p. (Wayne Osness)

434. WIER, Gene. A survey on the Olathe football program: To evaluate the opinions of the people involved. M.S. in Education, 1978, 98 p. (Phil Huntsinger)

435. RIVERA, Mary L. Effects of static, ballistic, and modified proprioceptive neuromuscular facilitation stretching exercises on the flexibility and retention of flexibility in selected joints. M.S. in Education, 1978, 164 p. (Carole J. Zebas)

UNIVERSITY OF MISSISSIPPI (J. Robert Blackburn)
UNIVERSITY, MISSISSIPPI

436. BEEDLE, B. B. The cross exercise phenomenon and the mentally retarded. Ed.D. in Physical Education, 1978, 110 p. (J. R. Chambless)

Unilateral isotonic exercises of the elbow flexor muscles were performed to determine if the nondominant, unexercised arm had significantly increased in muscular strength. Ss were 30 residence-centered MR students (17 girls and 13 boys) ranging in chronological age from 12 - 19. Exercises were performed on a padded, adjustable armrest which kept the elbow joint angle at 126° between each lift. Each S was randomly assigned to either an exp or a control group. The exp group trained 3 times per wk for 11 wks using a modification of the De Lorme technique for muscular training. Muscular strength of each arm, anthropometric size of the nondominant arm, and EMG analysis of the nondominant arm were the dependent variables utilized. Univariate and multivariate ANOVA and X^2 analysis were statistically employed, and univariate ANOVA revealed a sig gain in muscular strength of the dominant, exercised arm while X^2 analysis of the EMG frequencies indicated a sig fewer number of spikes as a result of training. Based on these findings, MR students are capable of exercising under stress, and physiologically they are capable of augmenting the strength of their nondominant, unexercised arm.

UNIVERSITY OF MISSOURI (J. Roberts)
COLUMBIA, MISSOURI

437. COLGAN, Sharon M. A comparative study of the A.A.H.P.E.R. Youth Fitness Test and a proposed fitness test. M.A., 1978, 194 p. (John A. Roberts)

This study compared the AAHPER Youth Fitness Test and a proposed fitness test patterned after recommendations of an ARAPCS Committee of AAHPER to determine if the tests measured the same fitness components. Girls and boys (n = 326) from St. John's English-Speaking School in Waterloo, Belgium (grades 5-12) were evaluated on both tests. The fitness items used were the 6 items of the AAHPER Youth Fitness Test and 3 items recommended by the ARAPCS Committee (mile run, skinfold measurements, and situps). An item measuring flexibility was also included in a portion of the study. The statistical procedures of factor analysis and canonical correlation were used to study the matrix of the intercorrelations of all the variables. Using the factor analysis procedure the extracted factors from each test were labelled and substantiated. The canonical correlation procedure involved examination of the variance accounted for by each of the canonical variates. The results revealed that the AAHPER Youth Fitness Test and the proposed test were measuring diff components of fitness. It was concluded that the AAHPER Youth Fitness Test measures primarily what may be regarded as "motor performance" while the proposed fitness test measures primarily "fatness" (obesity) and "endurance." The AAHPER Youth Fitness Test measures essentially the same components for males and females, but age interacts with performance to a greater extent in females. The inclusion of flexibility in the proposed fitness test adds another dimension as it correlates only moderately with the other components being measured.

438. DREISINGER, Thomas E. *Wheelchair ergometry: A training study*. Ph.D., 1978, 205 p. (Ben R. Londeree)
This investigation explored the effects of a wheelchair training program on the circulorespiratory (C-R) system of wheelchair confined (WCC) and ablebodied (AB) Ss. 28 men and women (12 of whom were confined to manual wheelchairs) were divided into 2 groups (exp and control). The exp group trained for 20 min, 3 times per wk for 8 wks on a stationary wheelchair ergometric device. The control groups continued normal activity for the same period. The Tsutakawa-Hewett Test for bivariate data was run on all sub-max exercise and recovery data. The Randomization Test for 2 independent samples was run on all resting and max exercise data. The training regimen elicited sig increases ($p < .05$) in max VO_2 and max efficiency values in the exp vs. control comparisons. Changes in sub-max variables were not sig ($p < .05$) in exp vs. control comparisons. There were no sig diffs in the WCC vs. AB comparisons on any of the hypothesized variables. It was concluded that training with arm work via wheelchair exercise is a practical means of increasing the C-R fitness levels of WCC persons. In addition, it appears that under certain prescribed circumstances AB Ss can provide data which may be related to WCC populations.

UNIVERSITY OF MONTANA (J. L. Dayries)
MISSOULA, MONTANA

439. DIEFENBACH, Donna E. *A comparison of nutritional knowledge and attitudes toward misconceptions of athletes and nonathletes*. M.S. in Physical Education, 1978, 76 p. (Thomas R. Whiddon)
The existence of misconceptions purported in *Nutrition for Athletes* and *Food for Fitness* and whether sig diffs existed between athletes and nonathletes. Results indicated that substantial % of athletes and nonathletes supported the misconceptions and that diffs between these 2 groups existed but were not sig diff.

440. MARTICKE, Linda K. Racial attitudes of male basketball participants. M.S. in Physical Education, 1978, 88 p. (John L. Dayries)
Interscholastic basketball teams were used to test several hypotheses concerning interracial contact and goal achievement. The attitudes studied were the anti-Indian attitudes of whites, the anti-white attitudes of Indians, and the integration attitudes of both Indians and whites. Questionnaires containing anti-white, anti-Indian and integration scales were sent to teams in the sample after the season. Results indicated that winning teams were sig more effective in improving their attitudes with respect to the 2 races. Moreover, integrated winning teams were sig more effective in reducing anti-white attitudes of Indians.

441. NOTARO, James V. The effects of diet and exercise on blood lipid levels in adolescent males. M.S. in Physical Education, 1978, 52 p. (Brian J. Sharkey)
The effects of diet and exercise on lipid concentrations in JHS males were investigated. Of specific concern were the changes that occur in cholesterol and triglyceride levels with either exercise or diet or a combination of both. 16 boys participated and were divided into exercise, exercise and diet, diet, and control groups. Exercise groups used an "aerobic type" training regimen and diet groups were placed on a strict cholesterol free diet. Blood samples were drawn initially and at the conclusion of the project to determine lipid concentrations. Results showed no sig changes in cholesterol or triglyceride levels. There were, however, statistically sig changes in aerobic capacity within the exercise groups.

442. WILSON, David W. The development and validation of job-related muscular fitness tests. M.S. in Physical Education, 1978, 89 p. (Brian J. Sharkey)
A battery of simple and inexpensive strength and endurance tests designed to predict work capacity of fireline personnel was developed. Following an analysis of the tasks involved in forest fire suppression, a series of tests was selected to provide information regarding fitness of the muscle groups involved. 30 females and 29 males, 18 to 24 yrs, were tested on the battery. Results indicated that most men were able to pass all the items of the battery while a low % of women passed the chin-up, push-up, pack test, or step test.

THE UNIVERSITY OF NORTH CAROLINA (P. Berlin)
GREENSBORO, NORTH CAROLINA

443. ALLEN, B. J. Black moods. M.F.A. in Dance, 1977, 30 p. (L. Andreasen)

444. ASKEW, J. A technique for identifying educational beliefs of preservice physical educators relative to student decision-making. Ed.D. in Physical Education, 1978, 131 p. (R. McGee)

A 30-item situation-response scale (Prospective Physical Educator Belief Scale) was developed to identify the educational beliefs about the degree of responsibility a prospective physical educator would be willing to allocate future students for their own decision-making. Cognitive, affective, and psycho-motor situation-response items were developed to reflect beliefs about the content of PE, the nature of the teaching-learning process, the nature of the learner, and the operational setting in PE. The scale was administered to 103 preservice PE majors for the purpose of estimating the reliability. An ANOVA was used to estimate r at .742 if no interaction is assumed and at .795 if interaction is assumed. It was concluded that the PPEB is an acceptable technique for identifying beliefs about the degree of responsibility a prospective physical educator would be willing to allow future students.

445. BEITEL, P. A. Multivariate relationships among visual perceptual attributes and gross motor tasks with different environmental demands. Ed.D. in Physical Education, 1978, 156 p. (P. Berlin)

This descriptive study investigated the underlying factors and interrelationships of 5 visual perceptual attributes (coincidence anticipation, field dependence/independence, perceptual speed, peripheral range, and spatial relations) and 2 performance stages of 2 gross motor tasks. The motor tasks, a ball task and a nonball task, had very similar spatial environmental demands and movement demands, but had diff temporal environmental demands. 80 randomly selected women enrolled in general college PE classes performed 6 trials of both motor tasks on 2 days. Change of performance through cognitive and associative phases of learning occurred in both motor tasks. Analysis revealed that values and interrelationships of the visual perceptual attributes were consistent with those in the recent literature. Promax factor analysis produced 5 factors accounting for 81% of the total variability and 3 low but significant ($p < .05$) interfactor correlations. Factor I - ability to perform the ball task - was related both to Factor IV - ability to ancitipate coincidence - and to Factor II - ability to extract and interrelate pertinent environmental information. Factor III - ability to relate to the total environment and perform the nonball task - was related to Factor V - ability to detect peripheral motion.

446. BENINGHOVE, J. C. Coaches' self-perceptions and players' perceptions of high school coaches on selected coaching characteristics. M.S., 1978, 230 p. (S. M. Robinson)

447. CHARPIO, D. J. The nature of human movement: A philosophical interpretation delineated from Neo-Confucianism. Ed.D. in Physical Education, 1978, 123 p. (C. Ulrich)

Gowin's method of analyzing the structure of knowledge was used to investigate and analyze Neo-Confucianism for the purpose of yielding a logical set of statements concerning the nature of human movement and the production of relevant pedagogical implications for the arts and sciences of human movement. The translated literature of the Neo-Confucian period (1017 - 1644 A.A.) and the contemporary literature of PE, sport, and dance served as the primary sources of information for the study. The literature was analyzed in relation to a series of connecting questions addressing certain metaphysical, epistemological, and axiological considerations, as well as, the concepts "human," "movement," and "human movement." It was concluded that in light of the source philosophy's basic premises and principles, human movement would be most appropriately interpreted as being highly moral and ethical in nature and as being the primary means of producing and confirming knowledge and handling affairs.

448. DAILEY, J. A. The development and validation of a sport assertion scale. Ed.D. in Physical Education, 1978, 137 p. (P. Berlin)

A 30 item, situation-specific, self-report measure of competitive assertion for college athletes, the Dailey Assertion Scale (DAS) was developed and administered to 74 male and female athletes at UNC-G. The College Self-Expression Scale, Marlowe-Crowne Social Desirability Scale, and a player/coach rating scale were also used in the research. 14 items were accepted following 3 item discrimination analyses. ANOVA revealed a scale reliability of .409 and an internal consistency of .941. Correlations and multiple R analyses yielded a sig relationship between a competitor's self-reported assertiveness on the DAS and her/his behavior as viewed by teammates and/or coach. There was a moderate sig relationship between a player and a coach's assessment of an athlete's assertive behavior and a low sig relationship between an athlete's DAS scores and her/his scores on the CSES. Content, concurrent, and discriminant validity with constructs of other kinds were established; however, neither convergent validity nor discriminant validation with constructs from the same substantive area were claimed.

449. EVANS, C. S. The guidance quality of selected movement objectives for classroom teachers. M.Education, 1978, 172 p. (S. M. Robinson)

450. FEIERABEND, M. B. Patient knowledge of medical vocabulary at a family practice center. M.Education, 1978, 65 p. (M. K. Solleder)

451. FERGUSON, C. J. The development and effect of a multimedia presentation upon knowledges about a university general physical education program. Ed.D. in Physical Education, 1978, 113 p. (M. Mordy)

The development of a multimedia presentation designed to inform students about the UNC-G General PE Program, and the effectiveness of the presentation on the program knowledges of incoming freshmen students was examined. A criterion-referenced mastery test was constructed to measure student knowledges about the general PE program. Content validity was established based upon the judgment of 3 selected test judges. The PE multimedia presentation consisted of: a slide/tape series, a set of 5 activity booklets, and an activity brochure. Data were collected over a 4 day period using the Solomon Four-Group Design. The Ss for this study were 240 incoming freshmen students who were randomly assigned to 1 of the 4 experimental groups. Findings revealed that there was a sig diff ($p < .0001$ level) in the knowledges about the general PE program between incoming freshmen who did and did not view the multimedia presentation. Ss who viewed the multimedia presentation scored higher on the knowledge posttest and checked sig less "don't know" answers than Ss who did not view the presentation. Further, results showed that obtaining the criterion score was dependent upon viewing the multimedia presentation.

452. FREEMAN, J. K. P. Execution of the pullover mount by third-grade elementary school children with varied use of manual guidance. M.S., 1978, 65 p. (P. Berlin)

453. FRITZ, K. R. Attitudes toward high school basketball

officials' authoritarianism as perceived by players, coaches, and officials. M.S., 1978, 65 p. (R. McGee)

454. GARVIN, L. M. Perceptions of CUNY women athletes and coaches about selected coaching practices. M.S., 1977, 79 p. (P. Berlin)

455. GEADELMANN, P. L. Sex equality in physical education programs of selected NCA-accredited Iowa high schools. Ed.D. in Physical Education, 1978, 183 p. (M. Mordy)

The extent of implementation of Title IX in HS PE programs was studied along with the perceptions held of the programs by principals, teachers, and students. Ss were 12 Iowa HSs stratified according to size. A focused interview was held with the principals and teachers. A questionnaire was administered to 10% of the students in each school. Responses were analyzed and used to categorize schools into 3 levels of compliance with the Title IX regulations. 3 schools were found to be in full compliance; 7 in partial compliance; and 2 in non-compliance. The questionnaire data were analyzed by a SPSS computer program which yielded %, frequency distributions, and cross tabulations with X^2 ($p < .05$). The major areas of non-compliance were in conducting separate sex classes for selected activities with differential course offerings for boys and girls and in treating students diff on the basis of sex in rules and regulations. On the whole, the large schools were in compliance to a greater degree than the other groups. Reactions of the individuals were largely positive, with those from the full compliance schools being the most positive.

456. GRAFF, J. A. A Q-sort study of the motivations of women collegiate coaches. M.S., 1978, 90 p. (P. Berlin)

457. GREENE, G. President Lyndon Baines Johnson's involvement in the conduct of amateur sport. M.S., 1978, 70 p. (W. M. Ladd)

458. HARRIS, B. L. Sex-role orientation, fear of success, and competitive sport performance of high school athletes. Ed.D. in Physical Education, 1978, 92 p. (G. M. Hennis)

The Personal Attributes Questionnaire (Spence, Helmreich, & Stapp, 1975) and the Fear of Success Scale (Zuckerman and Allison, 1976) were administered to 133 male and female athletes who were members of a 1977-78 HS varsity basketball team in Guilford County, NC. In addition, each S competed in a timed basketball shooting test under 3 conditions: alone, against a same sex player, and against an opposite sex player. Results of the ANOV revealed no sig diffs for male or female athletes sex-role orientation classification, level of fear of success, or competitive sport performance test under the 3 conditions. Spearman r coefficients were computed for sex-role orientation and fear of success level with the competitive sport performance under the 3 conditions; however, data analysis failed to yield clear results.

459. HILL, S. L. The temperament traits of women who coach team sports and individual sports on the intercollegiate level. Ed.D. in Physical Education, 1978, 241 p. (C. Ulrich)

Determination was made as to whether there were any sig diffs in the temperament traits possessed by women who coached the team sports of basketball and volleyball and the individual sports of golf and tennis on the intercollegiate level (N=53). A 2nd purpose of the study was to determine and compare the temperament traits of the women coaches with regard to the perceptions of themselves as a person and as a coach. Buss and Plomin's (1975) EASI III Temperament Survey and Interaction Temperament Model were used as the research instrument and theory to interpret the results of this study. A MANOVA revealed that the women who coached team sports and the women who coached individual sports perceived themselves as possessing similar temperament traits of emotionality, activity, sociability, and impulsivity. As a group, these women coaches were shown to be highly active and sociable with an emotionally stable behavioral style and the ability to delay impulsive responses until such behaviors were deemed appropriate. The sig r's for the coaches' perceptions of their temperament traits as a person and as a coach indicated that these coaches viewed their behavioral styles as being similar in a coaching and non-coaching situation.

460. HOLMAN, R. P. The perceived status of female athletes by male and female athletes and non-athletes in Canada and the United States. Ed.D. in Physical Education, 1978, 207 p. (C. Ulrich)

The perceived status of the American HS female athlete as compared to the perceived status of the Canadian HS female athlete was examined. The status of the HS female athlete as perceived by HS female athletes and non-athletes and male athletes and non-athletes, and the comparison of the perceived status of the HS female athlete with that of the female scholar and cheerleader was also investigated. Ss from Canada (N=531) and the US (N=532) responded to a background questionnaire and a semantic differential, examining the concepts: "girl athlete," "girl Scholar," and "girl cheerleader." Data were examined through profile analysis, calculation of D matrices, and the construction of D models. Results showed that the total American HS sample, as well as each of its subgroups (female athletes and non-athletes, and male athletes and non-athletes) had a less well defined and less favorable perception of the HS female athlete than had the Canadian HS sample and each of its corresponding subgroups. "Girl cheerleader" had the most favorable and sharply defined perception of meaning for the American and Canadian HS students. For the Americans, "girl scholar" was the next most favorable and sharply defined concept and "girl athlete" was the least. For the Canadians, "girl athlete" was the next most favorable and sharply defined concept and "girl scholar" was the least.

461. HUGHES, C. E. Field study of the SAVVY curriculum design in kindergarten physical education. M.Ed., 1978, 107 p. (S. M. Robinson)

462. JENKINS, J. A. Social dance in North Carolina before the twentieth century - an overview. Ed.D. in Physical Education, 1978, 135 p. (G. M. Hennis)
Historical materials available in NC concerning social dance of early settlers was examined. Data was collected from historical collections in archives, special collections in public libraries, and libraries from preparatory schools and colleges. It was found that the inhabitants of NC before the 20th century vigorously participated in social dance as a REC pursuit. Data collection revealed that although the lower socio-economic levels of inhabitants danced socially, there were very few recorded works authenticating these dances. Most sources were oral tradition and fiction. It was also revealed that social dances of the lower income levels were reflections of their work and lifestyles. Data collection also revealed that most information found concerning social dance before the 20th century pertained to the people of the upper socio-economic levels. Since the elite had benefit of education at this time, there were recordings of their balls, parties, and holiday events. Religion influenced the pursuit of social dance by early North Carolinians, and although the clergy came out strongly against social dance and dance education, North Carolinians still pursued this popular pastime.

463. JONES, S. Calico thyme. M.F.A. in Dance, 1978, 28 p. (L. Andreasen)

464. KNOPPERS, A. A behaviorally based appraisal of coaching performance in women's athletics at Michigan State University. Ed.D. in Physical Education, 1978, 173 p. (R. McGee)

A behaviorally anchored rating scale (KBARS) was constructed to appraise the performance of 10 head coaches. To ensure a high degree of content validity members of the population (N=173) were involved in the construction of KBARS. They submitted examples of effective and ineffective coaching behaviors which were refined to 299 statements and 12 dimensions. A sample of raters (N=43) allocated each statement to a dimension and assigned a numerical value to it. To be included in the KBARS statements and dimensions had to meet model assignment, variability, and agreement criteria. The resultant KBARS was used by the raters to rate each coach on 10 dimensions using the statements as behavioral anchors. Factor analysis yielded 1 distinct factor. The halo effect was moderate while there was a high degree of leniency especially in the self and peer ratings. The internal reliability coefficients ranged from .61 to 1.00. The degree of discriminant validity was moderate while the sig diff between the ratings of the athletes and staff indicated a low degree of convergent validity.

465. MAGGARD, R. E. Parental attitudes toward the values of interscholastic athletics. Ed.D. in Physical Education, 1978, 146 p. (E. D. McKinney)

Parental attitudes toward the values of interscholastic athletics were compared based on the athletic status of the child, sex of the parent, sex of the child, parents' athletic background, % of children participating in athletics, no. of children participating in athletics. The parents' attitudes were measured using a 46 item Likert-type attitude scale developed for use in the study. The parents' scores (N=147) were analyzed using a 2 x 2 x 2 factorial analysis of variance, ANOVA, and a *t* test. The conclusions drawn from the study were: Parents of children who participate in interscholastic athletics hold more favorable attitudes toward the values supported by and derived from interscholastic athletics than the parents of nonparticipants; neither the sex of the parent nor the sex of the child has an effect on the attitudes of parents toward the values supported by interscholastic athletics; the higher the no. and % of children of a family participating in athletics, the more favorable the attitudes of parents; participation in interscholastic athletics is associated with favorable attitudes toward the values derived from interscholastic athletics.

466. MARTENS, V. A. The "peak experience" as it relates to sport: A philosophic inquiry. M.S., 1978, 317 p. (C. Ulrich)

467. McCUTCHEN, M. G. Expert determination of knowledge and skills essential to the elementary classroom teacher for the instruction of creative dance. Ed.D. in Physical Education, 1978, 267 p. (G. Cheney)

A modified Delphi technique was used to survey experts in the area of children's dance concerning the minimum knowledge and skills needed by the ELE classroom teacher for the teaching of dance to children. Data were collected by means of a battery of 3 questionnaires designed from the information received on each previous probe and responded to consecutively. In Questionnaire 1 experts identified the knowledge and skills needed by the classroom teacher. In Questionnaire 2 these knowledge and skills were rated on a scale of 1 (low) to 7 (high) according to the relative importance of each for the teaching of creative dance. Questionnaire 3 involved the rerating of statements on which the experts' rating was outside the consensus area. The data from Questionnaire 2 and 3 were processed and programmed for descriptive statistics using the SPSS computed program FREQUENCIES. Findings indicated that experts placed the greatest importance on knowledge and skills involved in preparation, presentation, perception, and evaluation in teaching as well as understanding children and guiding them in all aspects of creative dance. A thorough knowledge of dance movement, elements, composition, and accompaniment was considered more important than a high degree of personal skill.

478. NORTON, C. J. Exploring the somatic dimensions of physical education. M.S., 1977, 78 p. (C. Ulrich)

479. PETRAKIS, E. The relationship between figure-ground perception and viewing time in a ball catching task. Ed.D. in Physical Education, 1978, 111 p. (G. M. Hennis)

The relationship between figure-ground perception and viewing time in a ball catching task of beginning (N=17 males, 17 females), intermediate (N=17 males, 17 females), and advanced (N=15 males, 15 females) tennis players (N=98) was investigated. Sub-problems examined the effects of sex and tennis skill level on figure-ground perception, the ball catching task, and the length of viewing time. Ss were administered the Group Embedded Figures Test to assess field dependence and performed the ball catching task which consisted of 5 trials (20 balls per trial) of catching a projected ball with 1 hand under 5 diff viewing times (0.1, 0.2, 0,25, 0.3, and 0.4 seconds). Results of the Pearson Product-Moment r indicated no relationship existed between figure-ground perception and viewing times. ANOVA revealed that no diffs existed between the sexes or tennis skill levels on figure-ground perception; however, sig diffs did exist on success in ball catching and viewing times.

480. PHILLIPS, F. R. The accuracy of self-appraised health knowledge of selected college students in eight specific areas of first aid at the University of North Carolina at Greensboro. M.Ed., 1977, 111 p. (G. Gilbert)

481. PROGEN, J. L. A description of stimulus seeking in sport according to flow theory. M.S., 1978, 136 p. (P. Berlin)

482. RUSSELL, W. L. The legal aspects of girls' interscholastic athletics. Ed.D. in Physical Education, 1978, 330 p. (G. M. Hennis)

This study examines the findings of 26 court cases involving sex discrimination of the female athlete by the State HS Athletic Associations and their allied members. An evaluation of the litigation was made to determine whether the rules and regulations of the State Associations were discriminatory. In 13 cases the court ruled in favor of the plaintiff. The litigation was brought to the courts under the jurisdiction of the Civil Rights Acts, Title IX of the Education Amendments Act, the 14th Amendment to the Constitution of the US, and State Equal Rights Amendments. It has been established that the Associations have the authority to govern interscholastic athletics. This includes establishing rules and regulations that control the no. and types of activities to be offered, as well as determining those eligible to participate. The major challenge to the rules and regulations of the Associations has been directed toward eligibility requirements. These, along with the imbalance between the girls' and boys' programs, have created a situation which each American must consider.

483. SMITH, M. C. Endless chain. M.F.A. in Dance, 1977, 35 p. (L. Andreasen)

484. THOMAS, H. A. Cinematographical analysis of selected batting variables of college baseball players. M.S., 1978, 64 p. (T. Martinek)

485. TRIGG, M. The effect of varying amounts of creative modern dance activities on creative thinking ability. Ed.D. in Physical Education, 1978, 189 p. (G. Cheney)

486. TUTHILL, S. E. The health knowledge of senior health education majors at selected universities in North Carolina offering degrees in health education. M.Ed, 1977, 88 p. (G. Gilbert)

487. WETTERS, B. Motivations of collegiate women basketball players: An analysis of relationships among fifteen factors. M.S., 1978, 106 p. (P. Berlin)

488. WILLIAMS, P. Y. Two approaches to beginning instruction in tennis. M.Ed., 1978, 64 p. (P. Berlin)

489. YOUNG, D. B. Teacher/child modifications of volleyball for fifth and sixth grade children. M.S., 1978, 96 p. (M. I. Riley)

490. ZUPP, N. T. An analysis of the choreographic processes of Alwin Nikolais, Murray Louis, and Phyllis Lamhut. Ed.D. in Physical Education, 1978, 170 p. (V. Moomaw)

UNIVERSITY OF NORTHERN COLORADO (M. Behling)
GREELY, COLORADO

491. ESTEN, Phillip L. The effects of traditional middle distance training and specificity training on the development of maximal glycolytic capacity of college students. Ed.D. in Physical Education, 1978, 121 p. (N. Van Anne)

No diff was found between 2 diff training methods on the max glycolytic development of college students. A sample of 29 Ss was selected from a conditioning class and randomly assigned to a traditional or specificity training group. The Ss were healthy undergraduate college students. 6 dependent measures, resting blood lactate, max VO_2 blood lactate, 120% max VO_2 blood lactate, max VO_2, 120% max VO_2 and the Margaria-Kalamen Power Test, were used to assess glycolitic capacity. The traditional training consisted of short interval running on M-W-F and endurance running on T-Th. The specificity training consisted of high intensity work on M-T-Th-F and complete rest on W. The study lasted 14 wks including 10 wks of training and 4 wks of resting. Comparison of the means within training groups (pre-post) was analyzed by use of the t-test while comparison of means between the 2 training groups was determined by the use of ANCOVA. Sig of .0259 to .00005 was found within the traditional and specificity groups on the max VO_2 blood lactate, 120% max VO_2 blood lactate and the max VO_2 test. No sig was found between the 2 training groups on all 5 measures. No diff occurred in the development of glycolytic capacity whether the Ss be trained traditionally or by a specificity program.

492. FAULKNER, Margaret E. The sex-role orientations of women intercollegiate coaches in eight sports. Ed.D. in Health and Physical Education, 1978, 144 p. (M. Behling)

493. LACHBROOK, Lynn. Comparison of the O'Brien method and rotary method of shot putting. Ed.D. in Physical Education, 1978, 58 p. (H. McKain)

Comparison of the effectiveness of the Rotary Method to the O'Brien Method was made on selected college football players (total n=40) utilizing the 12 pound shot for a 2-wk session and several physical characteristics were also analyzed to determine whether 1 method was more suitable for a given physical characteristic than another. The selected physical characteristics (predictors) were ht, weight, leg strength, and military press strength. Multiple R was used to determine the relationship of the predictor variables to the criterion which was the distance the shot was put. The F test was used to determine statistical sig ($p < .05$). Neither method was found to be superior in the distance the shot was put and none of the physical characteristics was found to be more suitable for one method than the other method of shot putting.

494. NIEMAND, David A. Attitudes about, and preference for, physical risk and vertigo risk among participants in selected sports. Ed.D. in Health and Physical Education, 1978, 141 p. (C. Cody)

UNIVERSITY OF NORTHERN IOWA (S. Winsberg)
CEDAR FALLS, IOWA

495. STETSON, Deborah K. A comparative study of the one-handed and two-handed backhand strokes in tennis. M.A., 1978, 71 p. (Carol Cooper)

Intact classes of female JHS (n=24) (n=30) were taught the 1-handed backhand tennis stroke and the 2-handed backhand respectively. Classes met 30 min/day, 2 days/wk, for 5 wks. ANCOVA on post-instruction scores on Revised Broer-Miller Backhand Test with Ballboy Modification, with pre-instruction scores on the Revised Dyer Backboard Test as covariate, indicated no diff between classes.

UNIVERSITY OF OKLAHOMA (Trent E. Gabert)
NORMAN, OKLAHOMA

496. BARRAS, J. B. Changes in specific physiological parameters in middle-aged women after participation in an eight week aerobically prescribed exercise program. M.S. in Physical Education, 1977, 52 p. (R. Ratliff)

497. BERNARD, M. M. The effect of progressively changing practice schedules on mirror tracing skill development. M.S. in Physical Education, 1977, 46 p. (T. Gabert)

498. DIMICK, S. M. Rate of change of velocity of blood flow and blood pressure slopes in normal and hypertensive endurance and resistance athletes. M.S. in Physical Education, 1977, 86 p. (R. Ratliff)

499. ELLIOTT, S. K. The effect of a physical fitness training program on the level of stress in firefighters at rest and stress producing states. M.S. in Physical Education, 1977, 146 p. (R. Ratliff)

500. JURGENS, C. M. The effects of eating and exercise behavior modification treatment in reducing body fat. M.S. in Physical Education, 1977, 95 p. (R. Ratliff)

501. STINE, G. A. Physical performance and anthropometric characteristics of wrestlers participating in the 1977 NCAA Wrestling Championships. M.S. in Physical Education, 1978, 80 p. (R. Ratliff)

502. VOTTO, M. J. Somatotype and physical performance characteristics of major college football players. M.S. in Physical Education, 1977, 56 p. (R. Ratliff)

503. WEHRMAN, J. A. A biomechanical analysis of the overhead set in volleyball. M.S. in Physical Education, 1977, 62 p. (G. Shierman)

UNIVERSITY OF OREGON (E. Reuter)
EUGENE, OREGON

504. ANDERSON, Linda A. Gerontological interests of three groups of health care providers in Lane County, Oregon. M.S. in Health Education, 1978, 172 p. (G. D. Burdman)
Examination and analysis was made as to the opinions and interests in geriatrics, gerontology, and older people held by physicians, registered nurses, and dentists in Lane County, OR, as well as comparisons of the expressed interests and opinions between the 3 groups of practitioners. The instrument consisted of 2 parts, demographic information and 22 questions regarding the interest and training in geriatrics/gerontology and opinions of the health needs of the elderly. A representative proportionate sample consisted of 300 invited Ss, with 51.33% responding. The analysis of the data, related to the expressed interests and opinions of the groups, were made by applying standard statistical measures. Comparisons between the strata were made by utilizing X^2 ($p \angle .05$). From the results obtained in this study, the author recommends 9 applications for the field of geriatrics.

505. ANDREWS, Gail E. Finnish dance and its role in Finnish peasant life during the nineteenth and twentieth centuries. M.S. in Dance, 1978, 53 p. (L. Hearn)

506. BATMAN, Paul J. An investigation of active tibiofemora rotation. M.S. in Physical Education, 1978, 52 p. (L. R. Osternig)

507. BEAL, Daniel E. A short history of Norwegian and Swedish dance during the first through fifteenth centuries, A.D. M.A. in Dance, 1978, 103 p. (L. Hearn)

508. BONAGURO, Ellen W. The influence of citizens band radio activity on the self concept and communication patterns of nursing home residents. M.S. in Health Education, 1978, 130 p. (L. G. Davis)
A sample of 11 females and 4 males, residents of a Eugene, OR nursing home, participated in the citizens band radio activity. 15 residents from another nursing home participated in the quasi-control group. The CB exp group was administered a Modified TSCS and the Sherwood Self Concept

Inventory, on an individual basis, prior to and after exposure to the CB treatment process. The control group was administered the same instruments only at the time of the exp group pretesting. Matched t and Student t comparisons were made between pre and posttest self concept scores. The residents' overall self concept became sig more positive after the CB treatment process. The personal self was the subarea most influenced by the CB activity. It was recommended that the activity continue in the study nursing home and also be considered as an activity for other nursing homes.

509. BROWN, Eugene W. Biomechanical analysis of the running patterns of girls three to ten years of age. Ph.D. in Physical Education, 1978, 135 p. (B. T. Bates)

This cross sectional study investigated developmental characteristics of the running stride of 3 preschool, 4 kindergarten, 6 second, and 6 fourth grade females. Cinematographically temporal and kinematic quantities describing the body during 21 intervals and 11 positions were studied. Groups were compared using ANOVA on absolute and relative time to complete defined intervals and on slopes and angles of body segments during defined positions. Fourier (harmonic) analysis of the x and y paths of the right ankle, knee, hip, and shoulder were investigated. A direct relationship existed between age and actual stride length and velocity. An indirect relationship existed between age and absolute and relative support phase times. At foot strike, younger Ss were farther behind their foot. At take-off, older Ss were farther ahead of their foot. Older Ss had a greater forward swing in the nonsupporting leg. For all groups, the 1st harmonic contributed the greatest % to the reconstruction of the x motion of all joint centers and y motion of the ankle. A direct relationship existed between age and importance of the 1st harmonic in the y motion of the knee, hip, and shoulder. This relationship was reversed in the 2nd harmonic.

510. DOMINGUEZ, Olga C. The perception of health needs of spanish origin elderly living in Lane County, Oregon. M.S. in Health Education, 1978, 89 p. (W. E. Smith)

Information about the perception of health needs, services, and resources of the Spanish origin elderly living in Lane County was obtained. A sample of 23 elderly over 60 yrs were interviewed for responses to an instrument developed by the East Los Angeles Health Task Force, CA. Questions covered health needs, health services, health resources, income and occupation, educational background, and general demographic data. Data analysis was done using frequencies, SDs, %s, *t*-test, and Fisher probability test (p $< .05$). Findings suggest that the health status and the utilization of health services by the Spanish elderly living in this area seem to reflect some influence of their yrs of residence in the social and cultural environment of America. Their perceptions and attitudes toward modern medicine and health professionals seem to be complicated primarily by financial difficulties rather than distrust in modern medicine.

511. EDELMAN, William L. *An analysis of the attitudes of college students and one of their parents pertaining to human sexuality and sexual decision making situations.* M.S. in Health Education, 1978, 115 p. (B. E. Pruitt)
To document Young's administration, data were collected from written records, a questionnaire, and interviews. The LBDQ XII (partial) was used to provide quantitative support for the qualitative data. Young was instrumental in developing a coherent and comprehensive system of physical education and recreation in N.S.W. Australia. In 30 yrs (1939-1969) he established a sound PE curriculum in schools. Classroom activities were enriched by special swimming schemes and a camping program that received world-wide acclaim. Facilities were developed to accommodate the broadly based curriculum. REC developments included play centers, camping, and learn-to-swim programs for school-age children while adolescents and adults were involved in community based leisure activities. The community use of school facilities was a noteworthy achievement. Young was perceived by associates as making a positive contribution to organizational achievement and organizational maintenance. Mean on LBDQ dimensions, initiation of Structure and Consideration were: subordinates (31.6, 33.4), superiors (40.43, 39.86), community leaders (42.75, 41.63). Newman-Keuls test showed no diff between the perceptions of superiors and community leaders but subordinates' perceptions were sig less positive (p .05) than the other respondents.

512. FRANCIS, Nancy R. *The development of videotape related to discipline problems in elementary physical education.* M.S. in Physical Education, 1978, 39 p. (C. Munson)

513. GOODLOE, Nancy R. *A study of the perceived qualifications of women athletic directors.* Ed.D. in Physical Education, 1978, 252 p. (B. F. McCue)
The objectively measurable qualifications needed by women athletic directors in the performance of their responsibili-

ties were investigated. 269 women ADs of the 1976-77 member schools in the AIAW were surveyed using a questionnaire. Responses were gathered on 59 criteria and analyzed across 6 variables containing background information on the respondents and their schools. $\bar{X}$'s, SD's, and %'s were used in the analysis of the material. 27 out of 50 items were selected as essential qualifications. The 5 items ranked the highest in value were: having a bachelors degree, having a masters degree, having attended 1 or more national meetings dealing with athletics in the past year, and holding a current membership in 1 or more professional organizations. The duties and responsibilities of the women ADs are the same as the duties and responsibilities ofmen ADs. There is a diff in the scope of these duties; however, the qualifications needed by men and women ADs are essentially the same. There is a need for the inclusion of courses related to communication skills, group dynamics, and skills in handling personal relationships in undergraduate and graduate professional preparation programs in PE.

514. GUTTING, Jane M. A comparison of self-prescribers and physician-seekers within the aging population. M.S. in Health Education, 1978, 102 p. (L. G. Davis)
43 elderly residents of retirement complexes were interviewed and provided information of their personal health knowledge, attitudes toward physician services, attitudes toward using advertisement as a source of health information, and demographic characteristics. In comparing these variables with physician utilization behavior the following was demonstrated: All Ss who were currently married were physician-seekers and 62% who were divorced were self-prescribers. All strict self-prescribers had annual incomes of less than $6,000 while employed. Fewer than expected strict self-prescribers had supplementary insurance to Medicare, while more than expected physician-seekers had supplementary insurance. None of the strict self-prescribers used OTC drugs, but they did use a large quantity of supplemental vitamins and health products. Self-prescribers and physician-seekers had a more favorable attitude toward physician services than did strict self-prescribers. There was no diff between physician utilization behavior groups and attitudes toward the use of advertisements or health knowledge.

515. IDRIS, Maria C. A proposed undergraduate curriculum for the professional preparation of school health educators in Malaysia. M.S. in Health Education, 1978, 125 p.

(W. E. Smith)
Since Malaysia became independent in 1957, sig developments in HE have taken place. However, there is still a shortage of teachers and the teachers teaching HE are inadequately trained. There is the need for more teachers with specific professional preparation to cope effectively with the increasing demand of HE teachers in the schools. This study recommends a curriculum for the professional preparation of school health educators at the university level in Malaysia. A tentative curriculum was developed by adaptation of the school HE programs in OR universities and taking into account Malaysia's health problems and health needs. The curriculum was then validated by a panel of experts from the WHO, US, and Malaysia. It will be submitted to the Joint Committee on Health Education from the Ministry of Health and Ministry of Education for possible adoption and implementation in Malaysian universities.

516. JEFFERIES, Stephen C. *A cross national comparison of sex typing and selected personal characteristics of American collegiate football players and English soccer players*. M.S. in Physical Education, 1978, 90 p. (J. Santomier)

517. JONES, Karen R. *Identification of coaching competencies by men and women coaches in selected Oregon secondary schools*. M.S. in Physical Education, 1978, 105 p. (L. Youngen)

518. KABOT, Carole. *A choreographic thesis: Moonstone*. M.S. in Dance, 1978, 84 p. (L. Hearn)

519. KENNEDY, Susan O. *A quantitative evaluation of the work incentive (WIN) physical/personal development training program for women*. M.S. in Physical Education, 1978, 83 p. (E. P. Wooten)

520. KORCHINSKY, Nestor N. *The equality of men and women in sport as portrayed through the history, development and the analysis of performance in age class competition of selected Canadian sports*. Ph.D. in Physical Education, 1978, 416 p. (B. F. McCue)
Speed skating, swimming, and track and field were chosen for the purpose of this study. Historical information was extracted from the literature, while the annual general meeting min of each sport governing body from 1967-75 were used to monitor developmental trends, with performance indica-

tors for the same period determined from the linear and non-linear analysis of national or provincial age class championship results. The findings indicated each sport to be prominent in early Canadian history; however, public interest was not sustained. Owing to the involvement of the Canadian government, a return to prominence is apparent. Social acceptability precluded women's historical participation in sport, with continued disparity found in events presently open for male-female competition. Similar administrative structures were found in each organization with diffs apparent in the emphasis placed on lower age class development. Though paid professionals have assumed a major responsibility in each organization, women have played a limited role in both administrative and technical affairs. In performance, males generally excelled in age class competition; however, improvement was characteristic of both sexes in best and mean scores. Performance convergency was apparent with the lower % sex diffs occurring in the 12 and under age classes.

521. LAZARNS, Joan H. Six choreographic concepts. M.S. in Dance, 1978, 73 p. (L. Hearn)

522. MacDONALD, Brian. An evaluation of intramural programs in selected English and French community colleges in the Montreal area during the 1977-78 school year. M.S. in Physical Education, 1978, 180 p. (J. Borchardt)

523. MANGUS, Brent. Pilot study investigating the absence of the palmaris langus muscle in high school basketball players. M.S. in Physical Eeucation, 1978, 20 p. (E. P. Wooten)

524. McTARSNEY, Patricia A. Evaluation apprehension: Effect on dominant motor performance response. Ph.D. in Physical Education, 1978, 94 p. (B. F. McCue)

Ss were 90 undergraduates recruited from beginning archery classes. Based on an initial archery test, Ss were designated as either DRC (dominant response correct) or DRI (dominant response incorrect). The 45 Ss in each dominance group were assigned to 3 evaluation conditions: no evaluation; outcome evaluation; or process evaluation. The initial archery test was given without an audience; a 2nd test was given with an audience. Ss shot 6 arrows at each of 6 targets; data was collected from the last 5 targets. The STAI and the Activation-Deactivation Adjective Checklist were given after each archery test to determine level of arousal.

Arousal measures showed no diffs in trait anxiety reported by exp groups, but all groups reported increased arousal when tested with an audience. A 2 x 3 x 2 x 5 (dominance x evaluation x audience x trials) ANOVA with repeated measures on the last 2 factors was used for archery error scores. The DRI group improved sig when tested with an audience, but there was no sig change in the DRC performance. The change in DRI performance was in the opposite direction from that predicted by social facilitation theory. It was concluded that the increased arousal level experienced by the Ss did not produce social facilitation effects on archery performance. Motor performance changes appeared to be the result of practice rather than audience presence.

525. MOORE, Bradford J. A study of the effects of incorporating neuromuscular relaxation skills and physical education upon selected performances of hyperactive children. M.S. in Physical Education, 1978, 85 p. (L. R. Osternig)

526. MOWATT, Marilyn. An analysis of selected physical and psychological factors that discriminate between high and low social status in children aged six to thirteen. Ph.D. in Physical Education, 1978, 151 p. (J. Broekhoff)

Relationships were established between peer popularity and measures of body size, morphology, motor skill, muscular strength and endurance, personality, self-concept, and physical attractiveness for 201 boys and 131 girls, aged 6 to 13 years, who participated in a Summer Sports Program. Correlational analysis confirmed previous research of positive r's between peer popularity and functional physical variables ($p < .05$) and low, negative r's with various structural variables. Anxiety was the only personality trait correlating significantly with peer popularity for girls (-.344). Discriminant function analysis revealed significant combinations of functional physical variables (positive loadings) and structural variables (negative loadings) which discriminated between low, medium, and high popularity groups with classification effectiveness 20% better than chance. The relationships were generally lower for girls than for boys. Due to the special nature of the population, inferences to other groups of children can only be made with great caution.

527. NORTON, Kenneth W. The effects of mechanically assisting a tapping movement on tapping speed. M.S. in

Physical Education, 1978, 38 p. (J. D. Adler)

528. O'NEILL, William A. A needs assessment study of physical education at the school district level. D.Ed. in Physical Education, 1977, 224 p. (B. F. McCue)
To provide a comprehensive description of K-12 PE in School District #44 (North Vancouver), British, Columbia, data was obtained by questionnaires from 379 teachers (92% response), 1,562 students (80% response), and interviewing 151 parents. The National Education formula ($p < .05$) was used to determine the student (stratified by grade and sex) and parent samples. An advisory committee composed of district school administrators, PE dept heads, coordinators, and teachers was established to identify and delineate guidelines for the investigation and pilot test the instruments used. The literature reviewed included studies in PE undertaken in Canada at the district and provincial level. A model contained the enquiry's 3 areas of focus: program determinants; operating functions and conditions; teacher and program needs. Data collected used the IBM 370 and SPSS program to provide descriptive statistics of means, frequencies, and % which were presented following the study's model format beginning with status and followed by the 3 focal areas. PE was placed in upper middle in importance when compared to 9 education subjects. Male students accorded higher status to the subject than female students. No agreement was found among teachers, students, or parents on rank of importance of objectives for school PE programs. Consensus existed on a standard for student evaluation.

529. PICKEL, Donna R. The effects of two interval running programs and duration of training on selected running tests by college women. Ph.D. in Physical Education, 1978, 65 p. (Edna Wooten)
Ss were 48 volunteers between 18 and 31 yrs of age. 4 exp conditions were: training for 5 wk or 8 wk at distances of 55-220 yd or 110-1320 yd. Total distance run per session was 1.5-2.25 miles. The interval running programs were designed to emphasize development of anaerobic and/or aerobic energy systems. Training sessions were 3 per wk and the intensity of workouts was regulated by HRs. Run tests of 50 yd, 440 yd, and 1.5 miles were used to measure improvement in efficiency of the ATP-PC, the lactic acid, and the aerobic energy systems respectively. ANCOVA was the statistical method used to analyze test results of the 50 yd dash and 1.5 mile run. The 440 yd test scores were analyzed through an ANOVA on the diff between pre and posttest performances. The 1.5 mile test

run resulted in a sig diff in favor of the 8 wk training program; however, there was no sig diff between training distances. Results revealed no sig diffs on the 50 yd dash or 440 yd run in regard to training distances or duration of training.

530. PYLES, David. Overload warmup and the effect on reaction time, movement time and hand-eye accuracy. M.S. in Physical Education, 1978, 42 p. (J. D. Adler)

531. SERLING, Marsha L. The effects of nutrition education on college students in regard to common misconceptions. M.S. in Health Education, 1978, 105 p. (G. D. Burdman)
The relationship of nutrition education to nutrition misconceptions of community college students was investigated. Data regarding knowledge gain and dietary behavior changes were analyzed by means of pre- and posttest surveys and phone interviews after a 1 term nutrition course, Fall, 1977. The conclusions drawn illustrate there were generally a high level of nutrition misconceptions among college students. The posttest scores were sig higher than the pretest scores and many positive behavior changes were made due to the course content. Factors influencing these changes were the high quality of instruction and adequate knowledge gain to make better food choices. The major concepts still misunderstood at the time of the posttest were those regarding the relationship between diet and exercise, and the role of exercise in general health and well being. Major concerns of students were the safety and nutritional value of processed foods and being overwt.

532. SIMON, Jane M. A comparison of the self-esteem of hearing-impaired adolescents and hearing sibling. M.S. in Health Education, 1978, 88 p. (L. G. Davis)
The self-esteem of a hearing-impaired adolescent was compared to a hearing sibling. Data were gathered describing each S's age, grade, and sex; along with the data for the hearing-impaired Ss, concern when hearing was lost, use of sign language, amount of time spent with family, and hearing status of family members. The Cooper-Smith Self-Esteem Inventory was used to measure total self-esteem and 4 sub-areas of esteem. Results of the study indicate sig higher eslf-esteem for the hearing Ss in total self-esteem, and the sub-areas of general and social self-esteem. No sig diff were found in the home and academic sub-esteem scores. As hearing-impaired Ss got older their self-esteem decreased.

533. SINCLAIR, Nola R. Interaction among mentally retarded

and nonhandicapped children in physical education. M.S. in Physical Education, 1978, 52 p. (J. Broekhoff)
The interaction of MR and nonhandicapped children in a PE class was investigated during a total of 20 lessons. The Ss were 4 moderately retarded children, ages 8-9, who were integrated into a PE class of 35 first graders. A specific strategy was developed to ensure that MR children interacted with nonhandicapped students in a partner-choice game. During the intervention period (5 lessons), the 4 retarded Ss could only form pairs with nonhandicapped children (forced-choice). Before (during 5 lessons) and after (during 5 lessons) the intervention period, the children could form pairs with any classmate (free-choice). Data collected displayed the following general tendencies: During the free-choice period before intervention, there were few pairs of MR and normal children. During the free-choice period immediately following intervention there was an increase in the no. of pairs made up of 1 MR and 1 nonhandicapped child. The increase in free-choice pairs of MR and nonhandicapped was not maintained, as shown by the follow-up (5 lessons) conducted 6 wks after the end of the study.

534. SMITH, Diane L. The development of field hockey in the Pacific Northwest. M.S. in Physical Education, 1978, 101 p. (B. Sisley)

535. STAM, Frederik. Handedness and choice reaction time: A comparative study of mixed-handed and consistently right-handed subjects on the basis of visual choice reaction time. M.S. in Physical Education, 1978, 68 p. (J. D. Adler)

536. STEADWARD, Robert D. Wheelchair sports classification system. Ph.D. in Physical Education, 1978, 152 p. (L. R. Osternig)
The classification system for wheelchair competitors was investigated. Specific sports skills were kinesiologically analyzed; namely, the shot put and the wheelchair sprint. A kinesiological analysis of the Ss performing the events was conducted to describe the movements performed. This analysis was aided by cinematography with the use of high speed cameras. Secondly, an electromyographical analysis was carried out to determine specific musculature involvement by the Ss performing each of the specific events. Experienced male wheelchair athletes (N=9), from classes IA, IB, IC, II, III, and IV were used in the investigation. The data collected, by synchronizing electromyographical tracings with

the filming of the specified events, were analyzed qualitatively. The investigation was a series of case studies within each of the classification categories. In summary, the electromyographical findings generally supported the theory of the classification system and their level of lesions. The data did not, however, support a separate class for IB and IC in the tetraplegic division.

537. TRICKER, Raymond. An historical and sociopsychological analysis of the running tradition in Eugene, Oregon. M.A. in Physical Education, 1977, 66 p. (J. Santomier)

538. WHITBY, Dennis. The influence of skill-demonstrations upon levels of anxiety. M.S. in Physical Education, 1978, 86 p. (J. D. Adler)

539. WOOD, Jessica. A choreographic thesis: Three dances all in one. M.S. in Dance, 1978, 65 p. (T. R. Faulkner)

UNIVERSITY OF PITTSBURGH (M. A. Sherman)
PITTSBURGH, PENNSYLVANIA

540. ALLISON, T. G. Perceptual and predictive aspects of the anaerobic thresholds of a group of trained distance runners. M.A. in Physical Education, 1976, 73 p. (B. J. Noble)

541. ALLISON, T. G. Serum lipid and lipoprotein changes in male and female college students following exercise training at two durations. Ph.D. in Physical Education, 1978, 104 p. (K. F. Metz)

542. ANDRES, F. F. Changes in state anxiety and urine catecholamines produced during treadmill running. Ph.D. in Physical Education, 1977. (K. F. Metz)

543. ARMSTRONG, C. W. Teaching experience, knowledge of performer competency and performance outcome as determinants of profiency in performance error identification. Ph.D. in Physical Education, 1977, 145 p.

(S. J. Hoffman)

544. BAHNEMAN, C. P. *An analysis of the relationship between selected personality characteristics and the verbal behavior of physical education teachers*. Ph.D. in Physical Education, 1971, 97 p. (M. A. Sherman)

545. BELL, C. W. *Perceptual, biochemical and physiological responses in long term work: An investigation of the influence of glucose ingestion*. Ph.D. in Physical Education, 1975, 94 p. (B. J. Noble)

546. CAFARELLI, E. D. *The effect of inspired CO_2 on subjective estimates of exertion*. Ph.D. in Physical Education, 1974, 77 p. (B. J. Noble)

547. CASPERSEN, C. J. *Effects of auditory input on perceived exertion during physical performance*. M.A. in Physical Education, 1976, 35 p. (B. J. Noble)

548. CLACK, R. E. *The physiological response to running on the level and slope at subjectively equal intensities*. M.A. in Physical Education, 1975, 36 p. (B. J. Noble)

549. EDWARDS, M. A. *A study to determine the effects of training at predetermined heart rate levels in college women*. Ph.D. in Physical Education, 1970, 167 p. (B. J. Noble)

550. FLOCK, J. D. *An investigation of the incidence of coronary-risk factors in six communities of Allegheny County*. M.A. in Physical Education, 1973, 65 p. (K. F. Metz)

551. GILL, P. G. *Volitional control of heart rate during treadmill exercise*. M.A. in Physical Education, 1978, 84 p. (R. J. Robertson)

552. GIOVANE, R. A. *Social dance of late 16th century Europe*. M.A. in Physical Education, 1972, 49 p. (B. J. Noble)

553. GOLDBERGER, M. S. *The effects of affective and cognitive training programs on the in-class behavior of physical education student teachers*. Ph.D. in Physical Education, 1970, 193 p. (M. A. Sherman)

554. GRUNWALD, J. Evaluation of the aquatic program in an inner city school. M.A. in Physical Education, 1974, 113 p. (M. A. Sherman)

555. KROTEE, M. L. The design of a curriculum for motor development in infants. Ed.D. in Physical Education, 1971, 253 p. (J. W. Birch)

556. LINSLEY, K. S. An ethnography of a high school girls basketball team. M.A. in Physical Education, 1978, 111 p. (M. E. Duquin)

557. MALEZI, E. M. A dance exploration in Laban effort-shape. M.A. in Physical Education, 1973, 74 p. (K. F. Metz)

558. MARCONYAK, M. Validation of a simple interval run test as a measure of cardiovascular-respiratory fitness for young adult females. M.A. in Physical Education, 1974, 68 p. (K. F. Metz)

559. MILLER, L. C. The influence of success and failure on a motor task upon body and level of aspiration of children. M.A. in Physical Education, 1974, 39 p. (S. J. Hoffman)

560. MILLER, R. E. The effects of a physical education program on perceptual development and reading readiness in kindergarten children. Ph.D. in Physical Education, 1973, 168 p. (M. A. Sherman)

561. NOVIELLO, J. T. The effects of a three month training program on sub-maximal work performance, total serum cholesterol and blood pressure of middle-aged business men. M.A. in Physical Education, 1971, 77 p. (K. F. Metz)

562. PANDOLF, K. B. The heart rate response to various speeds of linear movement in two sequential orders. M.A. in Physical Education, 1968, 66 p. (B. J. Noble)

563. PANDOLF, K. B. A comparison of perceptual and physiological responses to laddermill climbing, cycling, and stool stepping. Ph.D. in Physical Education, 1972, 138 p. (B. J. Noble)

564. POWELL, C. M. An Afro-American culture lives: A

concert of dances. M.A. in Physical Education, 1973, 40 p. (J. H. Beaman)

565. RIVERA, M. A. *Identification and training at the anaerobic threshold*. Ph.D. in Physical Education, 118 p. (K. F. Metz)

566. ROBERTSON, R. J. *The effect of exercise duration on the psychophysical and physiological responses to walking and running*. Ph.D. in Physical Education, 1973, 224 p. (B. J. Noble)

567. SIME, W. E. *Psychophysiology of muscle tension/relaxation: A comparative study of EMG biofeedback and autosensory feedback relaxation training*. Ph.D. in Physical Education, 1978, 94 p. (K. F. Metz)

568. SKRINAR, G. S. *The effect of three running durations on the retention of cardiovascular fitness during an eight week maintenance exercise program*. Ph.D. in Physical Education, 1978, 94 p. (K. F. Metz)

569. STAMFORD, B. A. *The heart rate response to a three-minute, moderate walk following varied stimulus conditions*. M.A. in Physical Education, 1970, 50 p. (B. J. Noble)

570. STAMFORD, B. A. *Perceptual and physiological responses to equivalent power outputs performed on a bicycle ergometer at varying pedal rates*. Ph.D. in Physical Education, 1973, 80 p. (B. J. Noble)

571. VAN HORN, L. V. *The acute response of serum lipids and lipoproteins to exercise among cardiac patients*. M.A. in Physical Education, 1976, 52 p. (B. J. Noble)

572. YERG, B. J. *Relationships between teacher behaviors and pupil achievement in the psychomotor domain*. Ph.D. in Physical Education, 1977, 161 p. (M. A. Sherman)

573. ZELONKA. N. H. *The reconciliation of psychomotor taxonomic variables applicable to dance*. M.A. in Physical Education, 1976, 74 p. (S. J. Hoffman)

UNIVERSITY OF SOUTHERN CALIFORNIA (L. M. Pacala)
LOS ANGELES, CALIFORNIA

574. PACALA, L. M. Perception of expressed control of collegiate physical education administrators (in the State of California). Ph.D. in Physical Education, 1977, 100 p. (J. Tillman Hall)

This investigation examined whether there existed a sig diff between perception of "expressed" control of the DEPT chair (N=37), as viewed by the chair and the perception of such control by full time faculty members (N=359) in the department. It further examined whether faculty status, tenured (N=238) or non-tenured (N=121) membership had a sig relationship to this question. The FIRO-B was settled to measure "expressed" control. A preplanned contrast and ANOVA did not discover any sig results.

THE UNIVERSITY OF TENNESSEE (J. Lewis)
KNOXVILLE, TENNESSEE

575. BARTO, S. S. A comparison of the effectiveness of two methods of teaching the front crawl and elementary backstroke to college men and women. M.S. in Physical Education, 1978, 60 p. (N. E. Lay)

Ss were volunteers from 2 beginning swimming classes at the UT, Knoxville. Students (n=20) in 1 class were taught by a traditional method of instruction where the teacher was the central figure, making the decisions and determining the climate, and where the learner had to adhere to the physical limitations set by the teacher. Students (n=20) in the other class were taught by a problem solving method of instruction where the students were expected to seek out answers through inquiry, explanation, and discovery to problems designed by the teacher. Each group received 16 days of instruction in class which met for 35 min 3 times a wk. Additional class sessions were used for the pretests and posttests which consisted of a subjective evaluation by a panel of 3 judges who held ARCSWI certification and were experienced teachers, and the Rosentsweig Revision of the Fox Power Test. Both groups improved their swimming skills but ANOVA showed no statistical diffs within or between groups.

576. IGNICO, A. A. The relative effects of speed-accuracy emphasis on kindergarten children's learning of the overarm throw. M.S. in Physical Education, 1978, 60 p. (B. J. Mead)

Kindergarten students (n=36) were divided by sex and randomly assigned to 1 of 3 groups. Each group had a training session 4 days a wk for 3 consecutive wks. The sessions consisted of throwing a tennis ball 12 times at a target which had different colored circles, 12 ft away. The speed group was instructed to throw the ball as hard as possible toward the target; the accuracy group to aim for the center of the target; and the equal group to throw the ball hard and at the center. 2 posttests were administered 1 hr apart. In both tests, accuracy was measured by assigning a score which was dependent on the circle hit by the ball, and speed was measured by a velocity detector. The instructions for the first posttest were identical to the ones used during training. For the second posttest, all Ss were given the instructions given to the equal group. There were no sig diffs on either posttest between the groups in accuracy or speed. Males showed a sig higher velocity on both posttests.

577. MCMAHAN, R. The development of an instrument for assessing sportsmanship attitudes. Ed.D. in Physical Education, 1978, 139 p. (N. E. Lay)

A questionnaire consisting of 48 statements involving positive and negative type behavior occurring in 6 categories of sports participation (baseball, basketball, football, golf, tennis, and a universal category not specific to a sport) was administered to male and female SHS students (n=667). Content validity had previously been determined through a definitionally based set of constructs involving courtesy, honesty, fair play, and self-control, established by the researcher from a survey of SHS students regarding attitudes toward sportsmanship and the subjection of these constructs to a panel of judges for interpretation. A coefficient of .91 was found for reliability as determined by the split halves method. Construct validity was assessed by subjecting the data to a factor analytic technique. The constructs involving honesty and fair play emerged as clearly defined and separate factors. Statements involving courtesy and self-control were interrelated and combined many factors. The analysis suggested a reduction of the questionnaire to 27 statements including the deletion of the golf category.

578. WHEELER, F. H. The development of a procedure for the instructional cost analysis of physical education programs in higher education. Ed.D. in Physical Education, 1978, 133 p. (M. M. Phillips)

After a comprehensive examination of institutional budget structures and their costing methodology, an instructional course cost analysis procedure was developed for analyzing collegiate PE programs. This procedure analyzes data based on faculty credit hrs and faculty contact hrs as the units of cost. Budgetary data including financial data and information pertaining to the academic program were collected from 8 public 4-yr institutions in the state of TN. Instructional costs were analyzed and computed for individual courses and programs. The resulting instructional cost analysis was sent to the respective departmental chairpersons who were asked to respond to its appropriateness and possible future usefulness. Based on their responses, no changes, modifications, or revisions were deemed necessary.

THE UNIVERSITY OF TEXAS AT AUSTIN (W. W. Spirduso)
AUSTIN, TEXAS

579. CLIFFORD, P. Effects of age and activity on reaction movement time. M.A. in Motor Learning, 1977, 101 p. (W. Spirduso)

580. DUDENHOEFFER, F. The effect of workload upon single motor unit control. Ph.D. in Motor Control, 1977, 142p. (W. Spirduso)

581. GARREN, R. Hemispheric laterality and motor laterality in four levels of reading achievement. Ed.D. in Physical Education for the Handicapped, 1978, 133 p. (W. Spirduso)

582. KENT, S. Verification of the effects of an experimentor-imposed rule on positioning movements in motor short-term memory. M.Ed. in Physical Education, 1977, 133 p. (W. Spirduso)

583. STEWART, C. Cerebral dominance for verbal processing and motor laterality in seven and nine year old normal and learning disabled children. Ed.D. in Physical Education for the Handicapped, 1978, 78 p. (W. Spirduso)

UNIVERSITY OF UTAH (R. O. Ruhling)
SALT LAKE CITY, UTAH

584. ADAMS, NANCY M. Effects of an instructional unit on aging upon high school students. M.S. in Health Science, 1977, 110 p. (Marshall W. Kreuter)

585. BOERIGTER, Robert J. A history of the American College of Sports Medicine. Ph.D. in Physical Education, 1978, 288 p. (N. P. Neilson)

586. BUCK, Marilyn M. Performance motives of girl basketball players in Iowa high schools. M.S. in Physical Education, 1978, 81 p. (Keith P. Henschen)

587. FULTZ, Frank G. Effects of an experimental personal health education course and the health hazard appraisal on selected college students in Illinois. Ph.D. in Health Science, 1977, 180 p. (Marshall W. Kreuter)

588. HARTMANN, Ernest C. Outdoor recreational use of pool nine of the Mississippi River. Ph.D. in Leisure Studies, 1977, 140 p. (Linn R. Rockwood)

589. MANDLECO, Carl F. Application of iontophoresis for noninvasive administration of Lidocaine Hydrochloride in ionized form. Ph.D. in Health Science, 1978, 371 p. (Robert O. Ruhling)

590. MARDANLOU, Jamshid. A physical education program for Iran. Ph.D. in Physical Education, 1977, 205 p. (N. P. Neilson)

591. PROCTOR, Andrew J. Predicting group membership of ninth grade female athletes in selected sports. Ph.D. in Physical Education, 1978, 88 p. (Robert O. Ruhling)

592. STEWART, Morris W. Effects of the Connecticut Wilderness School on selected personality characteristics and attitudes of troubled youth. Ph.D. in Leisure Studies, 1978, 149 p. (L. Dale Cruse)

593. WALKER, Hollie, Jr. Sickle cell hemoglobin in Greenwood County, South Carolina, an educational program. Ph.D. in Health Science, 1978, 96 p. (Keith P. Henschen)

594. WARDELL, David B. A cross-sport comparison of leadership styles and team success. Ph.D. in Physical Education, 1977, 118 p. (Keith P. Henschen)

UNIVERSITY OF WISCONSIN - LA CROSSE (N. K. Butts)
LA CROSSE, WISCONSIN

595. ARONOWITZ, Jerry S. Biorhythms and their relationships to fine motor movement activity of normal and educable mentally retarded elementary school children. M.S. in Physical Education - Handicapped, 1978, 64 p.

(L. Goodwin)

596. BELFORD, Jim. An opinion study on the origin and development of movement education in Canada. M.S. in Physical Education - Elementary, 1978, 69 p. (W. Van Atta)

597. BOULLION, Jean. Autogenic feedback as an adjunct to a smoking termination program. 1978, 98 p. (W. Chen)
The results of a smoking termination program incorporating autogenic feedback was compared to a traditional smoking termination program. It was concluded that a smoking termination which incorporated autogenic feedback brought about sig ($p < .05$) decreases in smoking activity and state anxiety upon completion of the program.

598. CLEMENTS, Barbara. The drug use, beliefs, opinions, and behavior among students attending Brookwood junior and senior high schools. M.S. in School Health, 1978, 86 p. (G. Gilman)

599. COLLINS, Nancy A. A survey of secondary school principals regarding the present status of formal teacher evaluation programs in Wisconsin's C.E.S.A. District 1. M.S. in School Health, 1978, 87 p. (J. Curtis)
The method used to evaluate public secondary school teachers within Wisconsin's C.E.S.A. District 1 were investigated for the year 1976-77. A 36 item questionnaire was personally distributed to 24 principals and 83.3% were returned. Results indicated that only 40% were satisfied with their teacher evaluation programs and 65% desired changes. The principals recommended several possible changes.

600. EVERSON, Alexandra H. The relationship of IQ and physical development to static posture of educable mentally retarded females. M.S. in Physical Education-Handicapped, 1978, 22 p. (L. Goodwin)

601. DITTMAN, Judith A. The effect of a health education unit about aging on the attitudes of eighth graders toward the aged. M.S. in School Health, 1978, 42 p. (J. Jordan)

602. DETERT, Richard A. A comparison of two methods of instruction on learning and retention of ninth grade health education students. M.S. in School Health, 1978, 187 p. (U. Curtis)

A teacher contact method and a lecture-discussion method were developed and implemented for a unit on venereal disease to determine the effectiveness of each method on student learning and retention. The sample consisted of 200 9th grade health education students from 4 schools: 59 Ss participated in the teacher-contact; 61 Ss in lecture-discussion; and 80 Ss in a control group. The Scott, Foresman and Company 33 question "Retention Test" for venereal disease was given after 9 class periods and a mo later. It was concluded that the lecture-discussion method was more effective than the teacher-contact method when measuring post-unit achievement. On the post post-unit data analysis, no sig diff was revealed. It was concluded that Ss in both methods retained about the same amount of knowledge.

603. FATURA, Richard J. The effect of biorhythmical critical and non-critical days on motor performance. M.S. in Physical Education, 1978, 30 p. (C. DeVoll)

A determination was made if a relationship exists between the effect of biorhythmical critical and non-critical days on a basketball player's motor coordination. 13 JV basketball players shot 20 free throws a practice for the entire season. At the end of the season the Ss biorhythm cycles were calculated and analyzed by an ANOVA test ($p < .05$). Based on the data obtained, it was found that no sig relationship existed.

604. FREDRICKS, Daniel. A listing of elementary school tumbling skills, progressions, grade levels, and spotting methods. M.S. in Physical Education - Elementary, 1978, 114 p. (W. Van Atta)

605. GRASS, John P. The effects of impact landing and rope jumping on vertical jumping ability. M.S. in Physical Education - General, 1978, 36 p. (W. Kaufman)

606. GRAFF, Ruth A. A standardized first aid knowledge test for candidates to the Trollhaugen Ski Patrol, Dresser, Wisconsin. M.S. in Physical Education - General, 1978, 40 p. (W. Kaufman)

607. HAMMES, Michael J. The relationship of biorhythms to selected aspects of basketball performance. M.S. in School Health, 1978, 52 p. (G. Gilmore)

13 members of the 1976-77 UW - Eau Claire, Green Bay, and La Crosse men's intercollegiate basketball teams who played in at least 21 games for a period of 20 min or longer were evaluated on field goal %, free throw %, rebounds, assists,

blocked shots, turnovers, and fouls. Complete biorhythms charts were computed for the season. A 3-way ANOVA revealed no sig diffs between the player's game performance and his biorhythmic cycles.

608. HANSON, Gary. A survey of parental attitudes concerning the acceptance of death education in the curriculum at Cashton High School, Cashton, WI. M.S. in School Health, 1978, 48 p. (J. Jordan)

609. HANSEN, Carlton J. Proposed guidelines for the constructing of an individualized physical education program for the handicapped child. M.S. in Physical Education - Handicapped, 1978, 130 p. (L. Goodwin)

610. HIGGINS, Christopher M. Smoking termination patterns in cardiac rehabilitation patients. M.S. in Physical Education - General, 1978, 66 p. (G. Gilmore)

611. HOOVERSON, Rita A. The relationship between physical fitness scores and scores obtained in basketball and badminton for tenth grade girls at Caledonia High School, 1978. M.S. in Physical Education - General, 1978, 32 p. (W. Kaufman)

612. JONES, Karen C. A comparison of the variation in the running patterns of individuals selected from various mental age categories. M.S. in Physical Education - Handicapped, 1978, 52 p. (L. Goodwin)

613. JORDAN, Rachel A. A comparison of the attitudes toward smoking of eighth grade and twelfth grade students through the administration of the "Teenage Self Test: Cigarette Smoking." M.S. in School Health, 1978, 86 p. (J. Leary)

614. JOSEPH, Daniel P. The relationship between posture and selected measures of static and dynamic balance of hearing impaired children. M.S. in Physical Education-Handicapped, 1978, 56 p. (L. Goodwin)

615. KOHNLE, Mark W. Anterior tibialis rehabilitation using electromyographic biofeedback for a mentally retarded, cerebral palsied boy: A case study. M.S. in Physical Education - Handicapped, 1978, 38 p. (L. Goodwin)

616. KOPF, Lawrence J. The effect of two conditioning

techniques on the cardiovascular efficiency of junior high school wrestlers. M.S. in Physical Education - General, 1978, 35 p. (R. Batchelder)

617. KOSTELNIK, Timothy C. *Predicted body density in active, sedentary, and coronary heart diseased males, age 35-72*. M.S. in Community Health Education, 1978, 93 p. (J. Leary)

Multiple regression equations were developed that increased the prediction accuracy of body density in active (A), sedentary (S), and coronary heart diseased (CHD) males, age 35-72. The dependent variable, body density, was determined by the hydrostatic weighing technique. Independent variables included 7 skinfold fat, 7 girth, and 5 diameter measurements; age, wt, ht, and residual volume. Mean body density for the A, S, and CHD males was: 1.0199 gm/cc (*SD* $\pm$ .0107), 1.0421 gm/cc (*SD* $\pm$ .0146), 1.0386 (*SD* $\pm$ .0155), respectively. An ANOVA and *t* test revealed a sig diff ($p < .05$) between body density in the A and CHD males. Developed multiple regression equations produced the following multiple regressions and S_e in the A, S, and CHD males: $R = .90$, $S_e = \pm .0047$ gm/cc; $R = .95$, $S_e = \pm .0051$ gm/cc; $R = .97$, $S_e = \pm .0045$ gm/cc. When compared to the Zuti and Golding body density predictions there was a sig ($p < .05$) increase in the prediction accuracy using the developed equations on A and S males. No sig diff in prediction accuracy was found with the CHD males.

618. LUTIGER, Sheila S. *A severely mentally retarded, self-mutilative girl and relaxation training: A case study*. M.S. in Physical Education - Handicapped, 1978, 47 p. (L. Goodwin)

619. MARTON, Frances G. *A comparison of cardiovascular fitness levels and body compositions of hearing impaired and hearing children*. M.S. in Physical Education - Handicapped, 1978, 50 p. (L. Goodwin)

620. McBRIDE, Susan L. *The development, implementation, and evaluation of a cardiac catheterization patient education program and its effects upon state anxiety and knowledge levels*. M.S. in Community Health Education, 1978, 125 p. (G. Gilmore)

A Cardiac Catheterization Patient Education Program (CCPEP) was developed by the researcher to aid patients in coping with preoperative anxieties. Data was collected on a sample of 24 adult patients undergoing cardiac catheterization surgery. 12 Ss participated in the CCPEP; the remaining Ss comprised the study control and were instructed on heart risk factors. State anxiety and knowledge parameters were measured at 3 stages during the study design: State I (pre-education), State II (post-education), and State III (post-operative). Anxiety change scores were calculated between the exp and control groups from State I to State II and State I to State III, and were statistically compared using the Mann Whitney U Test. Results demonstrated the effectiveness of the CCPEP in reducing state anxiety from State I to State II ($p < .05$), and in maintaining reduced anxiety following the completion of surgery ($p < .05$). Similar knowledge change scores were calculated and compared using the student's t statistic. Results indicated that exp Ss exhibited in increase in knowledge levels from State I to State II ($p < .05$). No diffs could be discerned between exp and control knowledge values in the post-operative setting when tested ($p < .05$). Statistical findings supported the effectiveness of the CCPEP in decreasing state anxiety and increasing knowledge levels of cardiac catheterization patients prior to surgery.

621. MEINERT, Daniel L. The relationship between wrestling coaches' personalities and that of wrestlers - effect on success or failure. M.S. in Physical Education - General, 1978, 20 p. (W. Kaufman)

622. MENARD, Richard J. An investigation of interscholastic athletic codes of schools affiliated with the East Central Conference. M.S. in Physical Education - General, 1978, 56 p. (R. Batchelder)

623. NEUBAUER, Jeffrey C. A comparison of left-handed and right-handed students in the acquisition of a novel motor skill. M.S. in Physical Education, 1978, 30 p. (R. E. Jones)

This study created 2 skill learning situations and attempted to locate any sig learning diffs among right-handed and left-handed students. A demonstration of a simple movement pattern was viewed by college students (N=80) who then performed the required skills until mastering them. The Ss were broken down into 4 groups of 20: 2 left-handed and 2 right-handed. Ss were exposed to models of either the same or opposite dominant hand. Trials to completion were used to determine learning rates. An ANOVA and Scheffe' Post Hoc test indicated that the diffs among the groups existed ($p < .01$) when left and right-handed students were taught by a right-handed model. Right-handed students learned sig faster when they worked with a model of the same dominant hand.

624. OLIVER, Arthur B. A comparison in upper body strength of ninth grade farm raised and city raised boys using grip strength. M.S. in Physical Education - General, 1978, 20 p. (W. Kaufman)

625. PECORE, Linda D. A biomechanical analysis of the one-handed backhand groundstroke. M.S. in Physical Education, 1978, 72 p. (N. K. Butts)

The data of the performance of the 1-handed backhand groundstroke for female beginning and advanced tennis players using the flexed (circular backswing) or the extended (straight backswing) elbow was biomechanically analyzed. The Ss selected for this study were 6 members of the UW La Crosse Tennis Team and 6 beginning players with a yr or less of tennis experience. These Ss were filmed at a rate of 100 fps while executing the 1-handed backhand groundstroke. The following data were described after analysis of the film: flexion of the elbow joint at the completion of the backswing and start of the forward swing through the contact point; displacement of the center of gravity of the right hand, right lower arm, right upper arm, racket and total body; actual and cumulative time from the completion of the backswing through the contact point; linear velocities of the racket, right hand, right lower arm, and right upper arm; and the contact point in relation to the body. 10 tracings were made of each S at the completion of the backswing through the contact point. The author concluded that individuals execute the backhand with a difference in style and the effectiveness of this stroke was influenced by anticipation, wrist strength, power, and flexibility.

626. ROGERS, Thomas J. Physical activities of the Kutchin Athabaskan Indians of the interior Alaska and Northern Canada. M.S. in Physical Education - General, 1978, 71 p. (W. Kaufman)

627. SCHROEDER, Alton A. Provision, utilization, and effectiveness of Wisconsin Division of Health Community Health Education Services at the local level. M.S. in Community Health, 1978, 70 p. (G. Gilmore)

628. SCHMIDT, Jeffrey W. The attitudes and knowledge of seventh and eighth graders about the air pollution in Denver, Colorado. M.S. in School Health, 1978,

58 p. (J. Jordan)

629. STEMPER, Alfred E. The effects of an isokinetic exercise on vertical jump. M.S. in Physical Education - General, 1978, 21 p. (W. Kaufman)

630. STEVENS, Dean P. Hemodynamic response to graded treadmill exercise using three graded exercise testing protocols. M.S. in Physical Education - General, 1978, 80 p. (W. Kaufman)

631. TRIPP, Faith A. The effect of voluntary observance of nutrition cartoons on nutrition knowledge of fifth graders. M.S. in Community Health, 1978, 54 p. (J. Leary)

632. THOME, Kathleen. A survey of the adapted physical education academy membership of the National Association for Sport and Physical Education (AAHPER). M.S. in Physical Education - Handicapped, 1978, 157 p. (L. Goodwin)

633. WILLIAMSON, Marybeth H. An assessment of the effectiveness of an educational program on wellness attitudes and behaviors of graduate students. M.S. in Community Health, 1978, 102 p. (G. Gilmore)

An Attitudinal Inventory of Wellness and a wellness education program were developed and implemented to determine the effectiveness of an educational program on graduate students' attitudes and behaviors concerning wellness. The exp group (n=14) participated in an educational program while the controls (n=14) did not. Pre- and posttests measurements were obtained from the Attitudinal Inventory of Wellness developed by the researcher and the Wellness Inventory developed by Travis (1977). The experimental group gain score on the Attitudinal Inventory of Wellness were shown to be statistically sig ($p < .05$). No stastical sig was revealed for change score values of the exp Wellness Inventory or for the control on either inventory.

UNIVERSITY OF WISCONSIN - MADISON (J. G. Wolf)
MADISON, WISCONSIN

634. BEUTER, Anne. Direct observation and measurement of gross motor behaviors in young children. M.S. in Physical Education, 1978, 91 p. (R. DiRocco)

A simple tool to code filmed observations of young children was developed. A subproblem was to build an exhaustive repertoire of gross motor behaviors displayed by children during the 12 mos following walking, to be utilized within the developed tool. The Ss were 8 ambulatory children, age 11 to 12 mos with no known deficiency. The children were filmed for 2 sessions, the 1st time with 1 of the parents and the 2nd time in interaction with the group of children. Each session lasted 10 min, and only spontaneous behaviors were recorded. The procedure was based on an event recorder system, the SSR System, and transcription by computer. Motor behaviors were grouped in 5 classes: postural activities, kinetic activities, manipulative activities, gestures, and interactions-expressions. 49 categories were defined and placed in the 5 classes. These categories give information about the posture of the children, their movements in time and space, and their emotions. It was concluded that it was possible to code motor behaviors using an event recorder system, filmed observations, a tape recorder, computer programming, and a specific repertoire. This method of coding motor behaviors makes it possible to record the incidence, duration, coincidence, and sequence of entries of these behaviors.

635. BONNER, Paula E. The relationship of value systems to decision making amont women intercollegiate athletic directors. M.S. in Physical Education, 1978, 135 p. (M. Weber)

In light of the development of women's intercollegiate athletics and the complex issues involved with this growth, an investigation was designed to examine the value systems of women intercollegiate ADs. The purposes of the study were: to compare the value systems of women administrators and the general population of American women, and to determine the relationship between values and decision making on 2 issues voted upon at the 1978 AIAW Delegate Assembly. The issues, subsidization of talent assessment, and separation of AIAW from AAHPER, were selected for analysis. 140 intercollegiate directors, voting delegates for their institution at the 1978 AIAW Assembly, responded by mail to the Rokeach Value Survey. The Kolmogorov one-sample test was utilized to analyze the diffs between the general population and ADs with profile of the female intercollegiate AD emerging. Women in AD placed greater value on those items involving self-sufficiency, competence, and self-acceptance than did the average American woman. The relationship of voting behavior to values was analyzed by the nonparametric Smirnov 2-sample test. None of the hypothesized values differentiated between groups voting for and against subsidization of talent assessment. No pattern of values appeard to enter into the decision making processes used to vote on this issue. The hypothesized values, freedom, imagination, and independence, and the value, family security, sig diff between those who voted for separation of AIAW from AAHPER and those who voted against. Those administrators in favor of separation placed higher value on independence and freedom and lower value on family security than did those administrators voting to remain with AAHPER. A relationship of values to decision making existed for the issue involving separation of AIAW of AAHPER.

636. BRETT, Patricia. An assessment of variations of skilled performance of female intercollegiate basketball players as a function of competitive circumstances. 1978, 69 p. (J. Silva)

This study was an attempt to assess the performance of female intercollegiate baketball players at the WI Small College State Tournament. 8 teams (12-15 players on a team) participated with each team playing at least 2 games. Free throw and field goal % were used as measures of performance. There was no sig diff in FG performance of players between post and regular season play. There was a sig diff in FG performance in games 1 and 2 for players on the teams finishing 1st through 4th in the tournament, but no sig diff for players on teams finishing 5th through 8th, or for all 8 teams combined.

637. BROWN, Roger L. The effect of modeled rule violation on adherence to a previously learned task in adults. Ph.D. in Curriculum and Instruction (Safety Education), 1978, 156 p. (C. F. Damron)

The effects of presenting an alternate behavior, via modeling, to low experienced adult observers was investigated. The term "rule violation" was used in this study to refer to alternate responding by the observer. A 3 x 3 (model exposure) (observer reinforcement) completely randomized factorial design was employed. A total of 45 observers ranging in age from 18 to 29 yrs (M = 21.08) were used. When observers were left along to operate the tak panel they were exposed to 1 of the 3 modeled conditions, via a closed circuit TV monitor. The conditions were: consistently modeled violations, inconsistently modeled violations, or no modeled violations. Observers were simultaneously presented one of the following reinforcement conditions: continuous reinforcement for adopting violations, intermittent reinforcement for adopting violations, or no reinforcement for adopting violations. A total of 8 *a priori* orthogonal comparisons were generated and tested for the 2 dependent variables, using both parametric and nonparametric statistical analyses. Conclusions: The observers in the study who were exposed to modeled violations produced sig more violations of the type modeled (modeling effects) than observers not exposed to modeled violations. The observers' performance of modeling effects did not differ sig between those who were exposed to consistent violations and those who were exposed to inconsistent violations. No statistically sig diffs were found for the occurrence of general violating behavior (disinhibition effects) for either observers exposed or not exposed to modeled violations. The observers who received continuous reinforcement for adopting modeling effects produced sig more violations than observers who received intermittent reinforcement.

638. BYRNES, William C. A comparison of the metabolic effects of breathing hyperoxic and normoxic gas mixtures during prolonged exercise. Ph.D. in Physical Education, 1978, 129 p. (J. P. Mullin)

This investigation evaluated the metabolic effects of hyperoxia during prolonged work at a moderate intensity. 7 Ss exercised for 30 min on a bicycle ergometer at 80% of their max aerobic power while breathing either room air or 70% O_2. During each submaximal exercise bout, the following parameters were measured at 5 min intervals: rate of VO_2, rate of VCO_2, ventilation, HR, and blood lactate. Before and after each exercise session, a muscle biopsy was taken from the vastus lateralis muscle. Muscle biopsy samples were then analyzed biochemically and histochemically. HR and ventilation decreased during the 30 min of exercise under the hyperoxic condition as compared with the normoxic condition. No diff in VO_2 between the hyperoxic and normoxic condition was found. The VCO_2 decreased when the hyperoxic run was compated to the normoxic run. The change in VCO_2 resulted in a decreased RQ during hyperoxia. Decrease in blood lactate, muscle glycogen used, and RQ under hyperoxic conditions suggest an increase in the utilization of fat and a decreased reliance on carbohydrate during exercise in hyperoxia. The histochemical evaluation of skeletal muscle did reveal 3 fiber types in human muscle via the A Pase stain. These fibers were classified as fast, intermediate, and slow. With prolonged exercise, the glycogen depletion pattern evaluated via the PAS stain was the same under both conditions, i.e., the slow muscle fibers showed the greatest depletion followed by the intermediate and fast muscle fibers.

639. DISHMAN, Rodney K. Adherence to habitual physical activity. Ph.D. in Physical Education, 1978, 249 p. (M. J. Safrit)

The ability of certain biological, behavioral, and psychological variables to discriminate between exercise participants on the basis of adherence and coronary disease risk was determined. An ancillary purpose was to construct and validate a psychometric tool for the assessment of self-motivation. Retrospective and prospective studies were conducted in addition to pretesting within a variety of behavioral settings. Information from medical screening and an exercise tolerance treadmill test provided data on various morphological, physiological, and behavioral variables as well as indices of coronary disease risk. The study included 66 adult male volunteers involved over a 20-wk period in 1 of 3 exercise training programs: Biodynamics Exercise Program, La Crosse Exercise Programs, UW - La Crosse, and Institute for Aerobics Research, Dallas, Texas. The exercise regimens consisted of either cardiovascular or muscular endurance training 3 days per wk, and data were available for selected biological and psychological variables. Test construction and validation for self-motivation involved the pretesting of 401 undergraduate volunteers and subsequent validation work involving independent samples of undergraduate females (N=64) and males (N=48). Results of the retrospective study suggested that individuals with greater adherence to exercise demonstrated lower values on each of these variables and were more symptomatic with regard to coronary disease. However, adherence was observed not to be associated with previous exercise behavior including athleticism. Logical convergent, discriminant, and behavioral evidence was provided for the construct validity of self-motivation and the derived instrumentation was found to be highly reliable. Subsequently, this measure was incorporated with selected psychological and biological variables in the prospective study. Results of discriminant analysis were similar to those of the retrospective study in that % fat and body wt discriminated between adherers and dropouts. Self-motivation was the only psychometric variable which enhanced this discrimination and, when combined with % fat and body wt, could accurately classify approximately 80% of all participants as to adherence group. Multiple regression analysis provided similar results and indicated that nearly 50% of the variance in exercise adherence could be accounted for when % fat, body wt, and self-motivation were combined within a psychobiologic framework. These findings suggest that the exercise adherer may be characterized relative to the dropout as leaner, lighter, and more highly self-motivated.

640. GWYNN, Eleanor. A key determinant of dance style: The structural use of the dance instrument as illustrated by the choreography of Katherine Dunham's Rites De Passage. Ph.D. in Dance, 1978, 236 p. (M. A. Brennan)

The choreographer structures movement expressed by the dance instrument and the human body which reflects specific elements of the stylistic content of dance. Style in painting and literature as characterized by Howard Gardner, Thomas Munro, and Meyer Schapiro, is the basis of a model for the analysis of the stylistic content of dance. This model includes formal elements fused into formal relationships, which reveal characteristics of 2 sections of Katherine Dunham's Rites de Passage. This work illustrates specific elements from the model as the determinant of its style. The key to the choreographic style is in the constant formal elements and formal relationships. The interdependence between choreographic style and performance is sig. Performance style is composed of physical features (structural and non-structural), training and expressiveness as illustrated by personal interviews and selected reviews of particular performances. The performance styles of Donna Wood of the Alvin Ailey American Dance Theater, and Mari Ono of the Lar Lubovitch Company, affect the style of the "Time Before the Time After (After the Time Before)." The key to choreographic style is in the structured movements and the use of the dance instrument; and the performance style of a dancer sig affects the choreographic style, especially the dynamic line and expressive quality, but the design or shape of the movements remains constant and true to the choreographic intent.

641. HARKINS, Ken. Metabolic cost comparison in cross country skiing between elite and non-elite skiers. M.S. in Physical Education, 1978, 38 p. (J. Mullin)

Comparison of O_2 cost of cross country skiing was determined as it related to speed of skiing among the following groups: elite skiers (N=4), intermediate skiers (N=7), novice skiers (N=2). The linear regression equation was utilized to compute the relationship between rate of VO_2 and skiing speed for each group. The results indicated that the rate of increase in VO_2 for a given increase in skiing speed was the same for the elite and intermediate skiers. This rate of increase was sig ($p < .05$) less than the rate for novice skiers. The elite skiers had a sig lower VO_2 ($p < .05$) than the intermediate skiers at any measured speed. Another purpose of this study was to compare the O_2 cost of skiing with the O_2 cost of running or walking at the same speeds on a treadmill among the 3 groups. The results indicated that there was no sig diff ($p > .05$) in VO_2 between skiing and treadmill work for elite skiers. The intermediate skiers had sig higher VO_2s for skiing than for treadmill work ($p < .05$). The novice skiers also had higher VO_2s for skiing than for treadmill work, but this diff was not analyzed statistically because of the no. of Ss in this group. It was concluded that at the same speeds there were diffs in O_2 costs of skiing with elite skiers having lower costs than non-elite skiers. It was also concluded that there was no diff in O_2 cost of skiing and treadmill work (across speeds) for elite skiers, while the non-elite skiers worked at a higher cost on the treadmill than they did on skis.

642. HOFEREK, Mary J. Sex-role prescriptions and attitudes of physical educators. Ph.D. in Physical Education, 1978, 192 p. (M. B. Sloan)

The relation of sex-role prescriptions and attitudes of physical educators was examined. The sex-role self-definition of physical educators as measured by the Bem Sex-Role Inventory (BSRI) and their attitudes toward the place of women in society as measured by the Attitude Toward Women Scale (AWS) were examined in relation to attitudes toward female participation, expectations for performance, and objectives valued. The teachers' current position in the profession and their expectations for their own career were also examined. A 67% response was received from a mail survey sampling of female and male AAHPER with primary interest in ELE, secondary, or college or university PE education. Support was found for a relationship between sex-role prescriptions and attitudes of physical educators. The preducted diffs were not found between the groups formed by the teachers' sex-role, self-definition (BSRI) and attitudes toward female participation or performance expectations. Support was found for a relationship between degree of liberal attitudes toward the role of women in society (AWS) and favorable attitudes toward female participation and high performance expectations for females in the least traditional activities. Diffs were found between physical educators categorized by sex-role self-definition and value placed on instrumental objectives. Analysis of the career data indicated sig diffs between female and male physical educators, with males higher on current institutional position, current and expected salary, and current and expected academic degrees.

643. KOEHN, Andrea H. A cinematographic analysis of the volleyball bump as performed by three skilled women. M.S. in Physical Education, 1978, 119 p. (M. Weber and E. Roberts)

The 3 skilled Ss performing a bump were filmed from a lateral view at 200 frames. Hip, shoulder, and wrist markers were digitized and shoulder angle and trunk and upper limb angles of inclination calculated. The angles and hip vertical coordinate were curve fitted by cubic spline function and velocity and acceleration derived. The analysis encompassed the 0.135 secs prior to ball impact. Arm flexion was the greatest contributor to the motion of the contact point on the forearm during this time period with trunk extension being second. Flexion and extension of the knees and ankles as reflected in the vertical motion of the hip joint contributed a negligible amount. There was individual variation in the proportionate contributions. Trunk extension did not incline the trunk beyond the vertical at any time.

644. LARISH, Douglas D. Automatic processing and recognition in the kinesthetic modality. M.S. in Physical Education, 1978. (G. E. Stelmach)

The investigation was an attempt to examine whether the perceptual process of automatic activation is characteristic of kinesthetic information processing. Using a stimulus priming technique, and following the Posner and Snyder cost-benefit rationale, the kinesthetic cue of direction was manipulated. The major prediction tested was that in the absence of active attention response times to name the 2nd of 2 movements will be faster when they are identical. Ss were presented with a sequence of 2 passive finger movements, and were required to verbally report the second movement's direction (up or right). By manipulating the expected probabilities that 2 identical movements would occur (80%, 50%, 20%) it was possible to determine if automatic activation operated free of attention and contributed to reduced processing time. 18 Ss were randomly assigned among the 3 probability groups. Analysis of the data failed to reveal support for the automatic activation process. The results were discussed in relation to viable alternatives to study activation and attentional switching time.

645. LEETZ, Daniel M. The relationship between human biorhythm cycles and occupational motor vehicle

accidents. M.S. in Curriculum and Instruction (Safety Education), 1978, 77 p. (C. F. Damron)

The effect of the physical, emotional, and intellectual biorhythm cycles on human performance in relation to occupational motor vehicle accidents was determined. The sample consisted of 379 Workmen's Compensation accidents. The cycle positions on the day of the accident were determined by an electronic biorhythm calculator. Frequency tabulations were obtained by summating the incidents of accident occurrence for the individual and combined cycle positions studied. The study was divided into 2 parts dealing with conservative and liberal estimates of the critical period. Each part was further divided into 3 sections: the relationship of actual versus predicted random occurrence accident frequencies occurring in the positive, negative, and critical phases of the individual biorhythm cycles; the relationship of the actual versus predicted random occurrence accident frequencies occurring in the combined cycle positions of the biorhythm cycles; and the relationship of the actual versus predicted random occurrence accident frequencies occurring in the individual and combined critical period positions of the biorhythm cycles. The predicted accident frequencies were obtained by multiplying the sample size by the position probabilities for the various cycle phases or combined cycle positions investigated. The actual frequencies represent the actual accidents that occurred in the sample. These frequencies were used under the liberal critical period definition. Under the conservative critical period definition, the actual accident frequencies were adjusted to be made compatible with that definition. The actual and predicted accident frequencies of all individual and combined cycle positions investigated were analyzed by the X^2 statistic. Conclusions drawn were: there was no relationship between the individual biorhythm cycle phases and accident occurrence; there was no relationship between the 27 combined cycle positions and accident occurrence; and there was no relationship between accident occurrence and double or triple period cycle positions.

646. MILNER, Carol S. Somatic perception: A study of the relationship between body awareness and levels of physical fitness. M.S. in Physical Education, 1978, 100 p. (J. Silva)

The relationship between somatic perception and level of physical fitness was assessed. A group of 100 women between the ages of 18 and 29 were given the Hypochondriasis, Lie, and Social Desirability scales of the MMPI, the Margaria

(1966) stair test of anaerobic power, and a modified treadmill test for assessment of aerobic fitness. Statistical analysis of the data demonstrated a sig r between somatic perception and physical fitness. Individuals with low levels of fitness had high levels of somatic perception while individuals with high levels of fitness had low levels of somatic perception. These results support existing related studies which report relationships between physical activity, fitness, and self awareness.

647. MUNNS, Kathleen M. The effects of a 12-week exercise and dance program on the range of joint motion of elderly subjects. M.S. in Physical Education, 1978, 100 p. (L. Halverson)

A specific exercise and dance program was designed for this study to reverse the habit of inactivity and improve the range of joint motion in elderly Ss. 20 exp Ss (mean age = 71.8 yrs) and 20 control Ss (mean age = 73 yrs), all of northeastern Dane county, were pre-tested on 6 single joint actions. The Leighton Flexometer was used to measure single joint actions. Using Hotelling's T^2, the mean range of pre-test joint motion scores was not sig diff ($p < .01$). The exp group participated in the exercise and dance program which met for 1 hr, 3 times/wk, for 12 wks. Control Ss received no treatment. At the completion of the 12-wk program, all 40 Ss were posttested. Overall group means, combining all 6 variables, were sig diff. The means of each of the 6 measurement variables were also sig diff. The program experiences a 0% attrition rate and attendance was excellent throughout the 12 wks. Exp Ss indicated an increased comfort in movement and an improvement in the performance of daily life activities

648. OKAFOR, Chinyelu b. A study to establish the level of health knowledge possessed by student teachers in Anambra State of Nigeria, and to make recommendations for strengthening the health education curriculum in teacher preparatory colleges. M.S. in Curriculum and Instruction (Health Education), 1978, 88 p. (W. H. Southworth).

This paper consists of 2 parts. Part I is a description of the current status of school health programs in Anambra State of Nigeria as reflected in various reports and papers published or prepared in Nigeria. Part II is the summary, discussion, and implications of a health knowledge survey among final-year students from 8 teacher preparatory colleges in Anambra State of Nigeria during January of 1978. It includes a 100-item test instrument which was specially constructed for use in Nigeria.

649. PHILLIPS, Sally J. The role of non-muscular and muscular forces in lower extremity motions. Ph.D. in Physical Education, 1977, 376 p. (E. Roberts)
The influence of non-muscular and muscular forces acting at the knee joint during the swing phase of human lower extremity motion as represented in a run and kick was investigated quantitatively. Newtonian equations of motion for a system of 2, linked rigid bodies modeling the thigh and shank-foot were applied to evaluate the motion of the 2 segments after the knee muscular force was mathematically considered to be zero. This prediction model was not intended to simulate actual human motion but rather to quantify non-muscular intersegmental relationships and to infer the role of the knee musculature. The behavior of the predicted system depended only upon the kinematics of the hip joint and the musculature crossing the hip joint. Thus, the non-muscular influence of the thigh upon the shank was quantified. The predicted motion, with knee forces relaxed, was compared to the kinematic and kinetic parameters in the observed motion, with knee forces operant, the latter were calculated by cinematogrphic techniques. The quantification of non-muscular intersegmental relationships can answer questions concerning the non-muscular contribution of proximal segment motion to distal segment motion. The data suggest that non-muscular reactions play a substantial role in knee flexion and knee extension during human lower extremity swing motions.

650. SCHULTZ, Suzanne M. Kinematic parameters of gait in active and inactive older women: An exploratory study. M.S. in Physical Education, 1978, 106 p. (L. E. Halverson)
Kinematic parameters of gait of the left lower extremity of 2 active women and 2 inactive women 67-69 yrs were examined. The parameters investigated included the temporal-distance parameters of stride length, walking speed, swing-to-stance ratio and cadence, as well as angular displacement, velocity and acceleration at the hip, knee and ankle joints. An activity checklist questionnaire was given to 15 women over 65 yrs, and 8, free of major disease and orthopedic related conditions, were chosen for a further interview. The 2 most active and the 2 least active were subsequently selected on the basis of the no. of hrs per wk spent in physical activity and physical work. The Ss were filmed and analyzed

according to UW-M filming procedures. The temporal-distance parameter results indicated that the Ss of this study are comparable to other older populations researched. The analysis of angular displacement, velocity, and acceleration indicated that each S showed a pronounced individuality in the relative contributions of each parameter to each joint. Finally, the active Ss displayed a greater degree of angular displacement, velocity, and acceleration of the hip joint during hip joint extension and a possible greater angular displacement and velocity at the knee joint during the first wave of knee joint extension. The inactive Ss showed a possible greater ankle joint acceleration from heel strike to foot flat. These results now need to be confirmed statistically in a larger sample of older adults.

651. SCOTILLO, Christine M. The role of movement description in criticism as a significant factor in developing a dance literature. M.S. in Dance, 1978, 101 p. (M. A. Brennan)

The problems involved in verbalizing the dance through dance criticism were investigated. The specific concerns of this study are: the role of criticism in developing dance literature, the role of movement description as a contributing factor vital to other dance studies, and the quality of movement description in contemporary criticism. The views of selected authorities are examined to determine the relationship of dance criticism to dance literature, and the importance of movement description in criticism. A general analysis of the writings of Arlene Croce, Marcia B. Siegel, and Deborah Jowitt is included in this work to provide a sense of the state of contemporary criticism. The writings of these critics have been selected for examination because they each attract a large readership and have published a collection of criticism from the past 10 yrs; the writings of these critics as well as those of Nancy Goldner and Don McDonagh, on 3 dancers, Divertimento from Baiser de la Fee (Balanchine), Deuce Coupe (Tharp), and Drumming (Dean) are discussed to compare the amount and quality of movement description available in contemporary criticism. The study concludes with a general statement concerning the nature of contemporary criticism as it reflects the relationship of criticism to dance literature. The focus of this study is not a historical view of dance criticism, but an investigation of current critical practices to determine if these practices are satisfactorily fulfilling the needs of dance literature.

652. SEIDEN, Lisa. Multiplicity in Alwin Nikolais Dance Theater. M.S. in Physical Education and Dance, 1978, 87 p. (M. A. Brennan)

This study explores Alwin Nikolais' Dance Theater and gives a perspective by which to view the choreography. The concept of multiplicity as defined by the writings of Henri Bergson is a distinguishing characteristic of Nikolais' work. Elements of the definition of multiplicity were used as criteria by which to analyze a filmed record of a dance. Use of the Recordak machine enabled the researcher to clearly identify designs in space and allowed for accurate rendering of the figures for illustration. The diff between Nikolais' dance theater form and the work of other dance theater choreographers is that Nikolais used theatrical accoutrements as a contribution to the aesthetic idea rather than to the dramatic idea. The use of the many and varied theatrical accoutrements in combination with human movement leads to the notion of multiplicity as an important aspect of the choreography. By using the multiple dance theater elements as his source for choreographic invention, Nikolais leaves the responsibility of interpretation open for each individual viewer. The varied objects and movement employed by the choreographer create equally varied imagery for the audience.

653. TAMSBERG. M. Catherine. Competencies for coaching female athletes. M.S. in Physical Education, 1978, 151 p. (M. Weber)

The role of the coach of the female athlete was investigated. The specific goals of the investigation were: to identify competencies considered to be important for the coach of the female athlete, and to determine if the real structure of the role of the coach as identified by coaches of female athletes paralleled the hypothesized multi-dimensional role. The participants were selected from colleges and universities throughout the US and included 500 Ss randomly selected from coaches of female athletes at 4-yr AIAW institutions. Ss were asked to respond, by mail, to a Coaching Competency Survey designed to elicit the degree of importance which they attached to various coaching competencies which the coach of the female athlete might be expected to possess. Responses were received from 349 Ss (return of 69.8%). Data were analyzed using factor analytic techniques. Two factor models, principal components and alpha factor analysis were applied to the data. Each of the intial solutions was then subjected to an orthogonal and an oblique rotation procedure. A comparable common factor structure as outlined by Harris and Harris (1971) was extracted from the 4 derived solutions.

This factor structure was then compared with the hypothesized dimensions of the role of the coach of the female athlete. Results indicated that the role of the coach was viewed as being multidimensional. The 6 primary dimensions which emerged were: scientific applications, medical-legal aspects, administrative aspects, evaluative aspects, individualized training techniques, and value considerations. 3 of the 7 secondary dimensions were identified as: commitment to develop sport programs, granting of athletic scholarships, and public relations.

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654. CHOATE, Susan C. The effects of the interaction of developmental levels and mode of instruction on the performance of a novel motor skill. M.S. Department of Physical Education, 1978, 59 p. (Paul Dunham, Jr.)

The theories of Gentile and Pascual-Leone were integrated to determine the effects of the interaction of developmental level and mode of instruction on the performance of a novel motor skill. 45 Ss in formal operations, 45 in concrete operations, and 45 in preoperations served as subjects in this investigation. Ss were randomly assigned, within age groups, to 1 of 3 instructional groups: visual, visual/verbal, and verbal instruction. The task was a square mirror peg turn. After receiving a brief introduction each S received 10 trials of instruction. Those receiving visual instruction viewed a video tape, those receiving visual/verbal instruction viewed an audiovisual tape, and those receiving verbal instruction listened to a tape recording. Each S performed the task until they reached a predetermined criterion: 40 secs for preoperations, 35 secs for concrete operations, and 12.4 secs for formal operations. The no. of trials to reach criterion was recorded for each S. Results were analyzed using ANOVA (3 x 3), developmental level x mode of instruction. Results suggest some support for the application of neo-Piagetian theory to motor skill acquisition and they may be interpreted to suggest a developmental diff in the performance of a novel skill as a function of instruction.

655. SIFFT, Josie M. An application of neo-Piagetian theory to motor development. M.S. in Physical Education, 1978, 74 p. (Paul Dunham, Jr.)

The applicability of a neo-Piagetian theory to motor development was intestigated. Ss consisted of 120 boys and girls from 2nd, 4th, and 6th grades who performed 5 trials on each of 3 mirror peg-turn tasks. Trial times were recorded on a .01-sec digital timer with 15-sec intertrial rests and 2-min rests between tasks. Results of a sex x grade x trial ANOVA, with repeated measures on the last factor, revealed sig diffs ($p < .05$) in all of the main effect factors, and for sex x trial, grade x trial, and sex x grade x trial interactions. The performance of females was faster than that of males, and 6th graders performed faster than 2nd graders. The last trial on each apparatus was superior to the 1st trial of that apparatus and to the succeeding trial on the more difficult task. An ANOVA for VE revealed that females performed with less VE ($p < .05$) than males, that 6th graders showed less variability than 2nd graders, and that VE increased on the 2nd task and decreased on the 3rd task. The interaction effects for VE were not sig.

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656. BROWN, C. Andrea. A physical education curriculum for fifth and sixth grade students. M.S. in Physical Education, 1978, 108 p. (W. M. Harrington)

A flexible curriculum was designed for PE to meet the needs of 5th and 6th grade students. Existing curriculum designs appeared to: appeal to a minority of students, be inconsistent with the requirements of students, and emphasize team sports and competition. These programs did not evidence a response to the developmental needs of students. Procedures used for selecting and identifying a suitable curriculum design included the processes of (1) selection of a framework, (2) synthesis of the developmental needs of students with concepts and elements from the framework, (3) development of objectives, and (4) selection of content for the program. Criteria were set for each of these procedures. The program designed was to respond to the needs of the students, reflect current humanistic philosophy and focus on societal activity patterns. Activities were suggested to enable the realization of the 6 objectives described. 5 of the categories were concerned with simulation of wilderness sports. The 6th objective was concerned with national sports and rhythmics. Recommendations were made for the implementation and adaptation of the suggested program.

657. CARATTINI, David M. Metabolic and contractile properties of in situ skeletal muscle in 2-deoxyglucose treated rats. M.S. in Physical Education, 1978, 47 p. (P. D. Gollnick)

Male wistar strain rats were used to determine the extent of glycolytic inhibition by 2-deoxy-D-glucose in the intact muscle and assess whether or not this inhibition had any sig effect on the in situ contracting muscle. Adrenaldemedullectomies were performed on the animals 2 wks prior to the exp. After intravenous injection of 2-deoxy-D-glucose, the plantaris, gastrocnemius, or soleus muscle was stimulated supramaximally at the rate of 5 twitches per sec. Muscles from 5 animals were stimulated for each group. After 2 hrs of stimulation, the muscle and the 3 resting muscles in the contralateral limb were sampled for metabolite analysis. Fatigue curves were recorded with a polygraph during the stimulation and measurement of mechanical parameters of performance were made from the tracings. Mechanically, the soleus showed a resistance to fatigue in response to 2-DG treatment. Metabolically, the treated muscles all reacted normally except for very low glucose-6-phosphate concentrations. These data and the apparently normal utilization of endogenous glycogen indicated the site of glycolytic inhibition by 2-DG to be hexokinase. This disagrees with previous investigators who have postulated the site of inhibition to be phosphoglucoisomerase. During the course of this investigation, it became apparent that 2-deoxyglucose (2-DG) has a wide range of effects interesting to investigators in a variety of fields.

658. DEMPSEY, Robert J. An evaluation of the Washington State University Intramural Program. M.A. in Physical Education, 1979, 92 p. (D. L. Engerbretson)

The 1977-1978 WSU intramural program was evaluated. The lack of a standardized evaluation tool led to the development of the WSU Intramural Program Evaluation Instrument, which was validated by a jury of 5 Pacific Northwest intramural directors. Questionnaires were distributed to all staff members and to all intramural representatives from the various dormitories, fraternities, and sororities. 51 of the 69 questionnaires distributed were completed and returned. The following conclusions were drawn: WSU offered an adequate program of intramural sports activities; student role in the program, leadership, and units of competition and scheduling rated "good" with 70% and above in the favorable response section; program of activities, public relations, philosophy and objectives, and facilities and equipment were rated "satisfactory"; organization and administration, health and safety, and financing rated "needs improvement" with under 50% in the favorable response section; group comparisons between the intramural staff, intramural representatives from the dormitories, intramural representatives from the fraternities and sororities showed that most groups reflected the overall unit evaluations; the female respondents had a slightly more favorable opinion of the WSU intramural program in most of the units than did the males.

659. GREIG, Carol I. A study of the effect of active games on the acquisition of morphographic spelling skills. M.S. in Physical Education, 1978, 31 p. (C. E. Gordon)
The effect of active learning games on the acquisition of morphographic spelling skills was compared with the effect of the traditional morphographic spelling program approach on the same skills. 2 5th grade classes were used (N=22 for both exp and control groups) in an 8-wk spelling program. 5 active games were developed by the investigator for use in the study. Morphographic spelling words and concepts were incorporated into the games and used only in the exp class. A spelling placement test was used to identify students for the program, and a 125-word spelling pretest and posttest was used. Group $\bar{X}$s on pretests and posttests of the control class and exp class were compared using ANOVA. The findings demonstrated that the exp class performed better on the posttest ($P < .01$) than did the control class.

660. HOOPER, J. R. A descriptive survey of the power of the statistical tests in graduate research in physical education at Washington State University from 1972-1977. M.S. in Physical Education, 1978, 58 p. (T. Russell)
Descriptive methods were used to evaluate the $\bar{X}$ power of selected statistical tests utilized in graduate research in PE at WSU from 1972-1977. The following subproblems were investigated: the type and no. of statistical tests employed; the $\bar{X}$ sample size and $\bar{X}$ statistical power for a small, medium, and large effect size found in the sig and nonsig t, F, X^2, and r tests of sig; and the $\bar{X}$ statistical power of all tests examined for a given effect size. 94 master's studies were inspected and the following results were found: 52% of the studies examined used inferential statistics and 40% used only parametric tests; out of the 382 tests examined, 69% were t-tests, 8.5% were r tests of sig; the sig and nonsig X^2 tests had the greatest $\bar{X}$ sample size; the sig and nonsig X^2 tests had the greatest $\bar{X}$ power for a small, medium, and large effect size; the nonsig t, F, and r tests had a greater $\bar{X}$ power for all sizes of effect than the sig t, F, and r tests; of all the tests inspected, the sig tests had a

greater $\bar{X}$ power for *a* small and medium effect size but nonsig tests had a greater $\bar{X}$ power for a large effect size.

661. LIDDLE, J. T. *A comparison of the physical fitness performance objectives with the performance levels of the fourth grade students in the Pullman public schools.* M.S. in Physical Education, 1978, 53 p. (G. Hulac)
The study determined whether or not the physical fitness levels of the 4th grade students in Pullman Public Schools were congruent with the physical fitness performance objectives stated by Dauer and Bell. The subproblem was to compare the results achieved on the physical fitness tests with the norms for the 600 yd run-walk in the AAHPER Youth Fitness Test (YFT) and for the curl-up, squat jump, and bench push-ups in the Washington State Physical Fitness Test (WSPFT). The Ss were 157 4th grade students in the Pullman School District. The S's scores were recorded and a % rank analysis was applied in order to arrive at the % of Ss who successfully completed the minimum standard of performance stated in the project objectives. Since 100% of the students did not achieve the minimum standard performance, the physical fitness levels of the 4th grade students were not congruent with the physical fitness performance objectives stated in the original project description. It was recommended that the performance objectives be rewritten and the term "minimum" be replaced by another qualifying term. It was also recommended that greater emphasis in the curriculum content be given to activities enhancing shoulder girdle strength and cardiovascular respiratory endurance.

662. MAYS, Thomas A. *Validation study of an instrument for assessment of high school athletic programs.* M.S. in Physical Education, 1978, 82 p. (K. A. Penman)
This study was undertaken to determine the goodness of the Penman-Adams HS Athletic Program Assessment Instrument. The instrument used was a 246-item rating scale designed to be general, yet extensive in its coverage of athletic programs. The instrument consisted of 5 major categories and 21 subcategories. 7 participants at each of 12 greater Spokane area HSs completed the assessment instrument. The criterion measure was developed from the subjective ratings of "experts" made up of an AD from each of the 12 schools involved in the study. The Spearman-Rho method was used to determine the *r* coefficients between the rankings of the 12 schools by the panel of experts and the rankings computed from the data obtained from the assessment instrument. The instrument was completed by 1 principal, 1 AD, 1 male head

coach, 1 female head coach, 1 faculty member, 1 alumnus, and 1 booster from each of the 12 schools. The results of the original test design indicated that the validity of the instrument was not satisfactory; however, by applying the technique of sequential analysis, validity was determined to be acceptable between the criterion measure when the sample size was reduced to a homogeneous group. Based upon the findings of this study, the most feasible person for evaluating the HS athletic program is the principal.

663. MOORE, R. L. *The effect of carbon monoxide and temperature on oxygen binding to hemoglobin*. M.S. in Physical Education, 1978, 48 p. (D. L. Engerbretson)
The effect of CO and temp on the quantitative characteristics of O_2 binding to hemoglobin was studied. Whole blood was oxygenated and titrated with 0.14 M HCl until the pH at 23°C was 7.25. The blood was then stored under N_2 at 4°C for 11 to 14 days before being used for O_2 binding studies. O_2 dissociation curves were generated microgasometrically in the presence of varying levels of carboxyhemoglobin (0.0%, 32 ± 1%, 44 ± 1%, and 54 ± 1%) at 30°, 37°, and 43°C. The O_2 dissociation curves generated at 30°, 37°, and 43°C in the absence of carboxyhemoglobin had P_{50} values of 10.50, 16.25, and 24.00 mm Hg, respectively. The P_{50} values taken from the carboxyhemoglobin influenced O_2 dissociation curves decreased sig ($P \angle 0.005$) at all temps as carboxyhemoglobin levels increased, but the P_{50} values did not vary sig as a function of temp change.

664. RAY, J. D. *The effects of different ground surfaces on equine joint motion as analyzed by electrogoniometry*. M.S. in Physical Education, 1979, 184 p. (M. Adrian)
Differences in angular joint motions of horses moving over diff hard and soft surfaces were determined. Both carpus and metacarpo-phalangeal joints of the forelimbs were examined using electrogoniometry. 2 male and 4 female thoroughbred horses were used as Ss in the investigation. These clinically sound horses were led over 6 surfaces (concrete, grass, asphalt, woodshavings, hard dirt, and loose dirt) at a walk and trot. Oscillograph recordings were obtained and analyzed with the use of a computer. Displacement and velocity curve patterns were quantitatively and qualitatively analyzed. The joint motion of both the carpus and fetlock at a trot showed increased amplitude and decreased total time when compared with the walk. The start of carpus flexion was earlier, and extension later on loose dirt and woodshavings than on the other surfaces. Amplitude and air time

were also greater. The goniograms of all surfaces had similar negative and positive slopes, amplitudes, and curve patterns. For angular velocity the greatest intersurface variation of joint motion occurred during the air phase on all conditions. This investigation provided needed information about the angular joint motion of horses moving on different surfaces. These detailed movement characteristics of joint motion provide more facts which can lead to injury prevention.

665. SCHELLY, Jane E. The effect of success on team cohesiveness. M.S. in Physical Education, 1978, 68 p. (C. E. Gordon)

The study dealt with the effect of success on the cohesiveness of a track and field team. Ss were from girl's track and field teams in 6 HS in northern ID and eastern WA during the 1978 competitive season. The measures of group cohesiveness used were the Group Cohesiveness Index, which contained 2 questions, and the Team Interaction Evaluation. These questionnaires were completed both pre and post season. Results were viewed in an attempt to determine the effect of success on the cohesiveness within subgroups (i.e., relays, jumpers, throwers), between subgroups, on the individual, and within the team as a whole. A t-test for independent samples was used to obtain inter- and intra-group comparisons. Rank order r's compared the means of various groups. The following results were found: those teams categorized as successful did not exhibit an increased degree of team cohesiveness between pre and post season. When comparing the degree of success attained by each team to the amount of combined change in the group cohesion between the beginning and the end of the season, an inverse relationship was found. This relationship was not statistically sig. Success at the individual level resulted in greater (although nonsig) attraction to the team as a whole. While not statistically sig, the individual participants in relay events displayed greater cohesion than individuals within the same team participating in other events, i.e., throwing and jumping.

666. SCHNEIDER, S. K. Sports coverage in national news broadcasts from 1972-1976. M.S. in Physical Education, 1978, 51 p. (K. A. Penman)

The relative amounts of sports coverage broadcast in the national evening news by the major television networks, ABC, CBS, and NBC, for each of the yrs 1972, 1974, and 1976 were determined. The total amount of sports coverage, women and minority participation in this coverage, and violence in these broadcasts, were subproblems of this investigation. The data were obtained by randomly selecting 12 wks for each of the 3 yrs. The sample was limited to Monday through Friday broadcasts of the national evening news. All stories directly related to sports were gleaned from Television News Index and Abstracts, which catalogued all news stories by network and date. Vanderbilt University compiled the individual sport stories on cassette tape recordings and these recordings were the basis for word counting analyses by the investigator. X^2 was used to test for statistically sig diff ($p < .05$). Results indicated that there were sig diff among the networks in both the amount and nature of sports coverage in the national evening news for each of the yrs 1972, 1974, and 1976.

667. SILVERMAN, S. J. The effect of sodium cyanate on cardiac and skeletal muscle in trained and untrained rats. M.S. in Physical Education, 1978, 36 p. (P. D. Gollnick)

The effects of sodium cyanate injections and training on the adenosine triphosphate, creatine phosphate, lactate, glucose-6-phosphate and glycogen concentrations and succinate dehydrogenase activity of white and red gastrocnemius, soleus, and cardiac muscle were investigated. Hemoglobin concentrations and hematocrits were also measured. Training consisted of a 9 wk program of treadmill running designed to increase the aerobic capacity of the skeletal muscles of the animals. Sodium cyanate was injected interperitoneally (50 mg/kg) 3 times a wk for 8 wks. Muscle substrate levels were measured fluorimetrically, hemoglobin estimated spectrophotometrically, and hematocrit determined by centrifugation. No sig diff existed in hemoglobin concentration, hematocrit, and the concentrations of glycogen and glucose-6-phosphate in the muscles as a result of sodium cyanate injections. Socium cyanate lowered ($p < .01$) adenosine triphosphate in the untrained group. Training was found to have an effect in all the muscles studied. Results were similarly lower and sig ($p < .01$) with sodium cyanate treatment when creatine phosphate was analyzed in skeletal muscle. Training did not affect the adenosine triphosphate and creatine phosphate of cardiac muscle. These findings demonstrate a protective effect of training to sodium cyanate injection.

668. STOOCHNOFF, P. J. The evaluation of the current school recreation course in the secondary schools of British Columbia. M.A. in Physical Education, 1979, 75 p. (W. M. Harrington)

This study was designed to evaluate the current school REC course in the secondary schools of British Columbia. 100 questionnaires were mailed (May, 1977) in order to evaluate the current community school REC program under the following categories: the instructor and his or her background and responsibilities; the management parameter involving budgeting, expenditure, class size, time allotment, facilities in the school and the community; and the overall course content encompassing a thorough activity checklist. Also, a comparision was made to establish if the current Department of Education curriculum objectives were being followed as set forth by the department in 1965. 68 questionnaires were returned and computerized on the basis of descriptive statistics involving means, modes, and %. Results were shown under each category that was evaluated and recommendations were made on the basis of these computerized results.

669. SWALM, R. L. The relative contributions of sculling velocity, hip flexibility, and abdominal strength to each of five synchronized swimming stunts. M.S. in Physical Education, 1978, 57 p. (K. A. Penman)
The relative contributions of sculling velocity, hip flexibility, and abdominal strength to the back piked somersault, the front walkover, the double ballet leg, the single ballet leg, and the back walkover were determined. Hip flexibility was measured using a Leighton Flexometer. Abdominal strength was measured using a 2 min sit up test. Sculling velocity was measured as the time it took a S to scull to 60 ft. The Doolittle method for calculating Beta wts and a coefficient of multiple determination were used for each dependent variable and the proportion of variance due to the effects of independent variables acting together. Neither sculling velocity, hip flexibility, nor abdominal strength sig contribute to the performance of the front walkover, the back walkover, the single ballet let, the double ballet leg, or the back piked somersault ($p < .05$).

670. WILCOX, R. C. The expressed values of college varsity athletes in England and the United States of America - A cross-National Analysis. M.S. in Physical Education, 1978, 129 p. (R. Doornink)
The expressed values of 2 groups of athletes and non-athletes (both men and women) selected from England and the USA were compared. The aim was not to test any causal relationships, but rather to describe the characteristics of desirable human values. The Ss used in the study were 107 men and women college varsity basketball players, and college non-

athletes at both Saint Luke's College (University of Exeter), England and at WSU during the fall and spring semesters of the academic year 1977-78. Each S completed Form D of the Rokeach Value Survey. The group data were both independently and cross-analyzed. The groups of data were comprised of athletes and non-athletes further categorized by sex and nationally. Statistical analyses of the data were conducted using the non-parametric median test across all relevant comparison groups, resulting in 10 sets of comparisons ($P < 0.05$). Sig diffs were found among 7 of the 10 comparison sets, identifying 10 discriminant values, appearing on 16 occasions. No diffs were found between English male and female athletes and English male and female non-athletes. In the same way, no diffs were found in the comparison of American female athletes and non-athletes. It was concluded that the amount of evidence to support the notion that participation in sport develops character, is lacking. Nevertheless, some evidence was furnished to suggest that participation in the American male or female athletic programs may be related to the structure of the individual's value system.

WESTERN ILLINOIS UNIVERSITY (G. W. Hermann)
MACOMB, ILLINOIS

671. ADCOCK, Terry S. Attitudes toward aging of school health education majors at Western Illinois University. M.S. in Health Education, 1978, 50 p. (S. Fors)
The Aging Semantic Differential was used to determine the attitudes toward aging of 45 preprofessional HE majors at WIU. Ss rated 3 social objects (persons 20-30 yrs old, 40-45, and 70-85) on a 1-7 point semantic differential. 3 previously derived factors (instrumental-ineffective, autonomous-dependent, and personal acceptability-unacceptability) were analyzed. Variables of sex, transfer status, and previous formal education about death and dying were considered. $\overline{X}$ scores and factor scores were compared using a t-test ($p < .05$). Total $\overline{X}$ scores were progressively less positive as the age of the social object increased. With sex as a variable, a sig diff was found between $\overline{X}$ scores for persons 20-30 yrs old with males possessing the more positive attitude. No sig diff was found between males and females for the other 2 social objects. Sig diffs were found between transfer and non transfer Ss for the 20-30 and 40-55 yr social objects with transfer Ss projecting the more positive attitude. With previous formal education about death and dying as a variable, sig diffs were found with those with

education possessing less positive attitudes toward persons 20-30. No sig diffs were found in the total $\bar{X}$ scores for the other 2 social objects.

672. BRUNS, John F. An attitude analysis of chief park and recreation executives toward collective bargaining in the state of Illinois. M.S. in Recreation and Park Administration, 1978, 85 p. (R. Bunch)
Data obtained from 121 questionnaires were treated by item frequency checks in which a $\bar{X}$ score was derived. *t*-tests were conducted on the $\bar{X}$s to determine if a sig diff existed between the sub-populations. Over half (59.5%) of the chief executives had direct exposure to employee unions. Chief executives, both with and without direct union exposure, agreed that collective bargaining probably would not increase the quality of work or improve working conditions. Ss were undecided as to whether collective bargaining would increase wages. They were also undecided if collective bargaining should provide joint decision making. Chief executives agreed on the following: workers should not strike; arbitrators should be unbiased; provisions encompassing wages, grievance procedures and working conditions should be included in a collective bargaining agreement; and employees who participate in a strike should not be sent to jail, have a fine imposed on them, or have their seniority removed. Of the chief executives responding, only 16 of their park and REC agencies had employees who held membership in employee unions.

673. CIESIELSKI, Anna M. A comparison of cardiovascular effieicney of high and low anxious persons. M.S. in Physical Education, 1978, 32 p. (E. Chapman)
The STAT was used to obtain 2 groups of female Ss, 20 high anxious and 20 low anxious. Each S performed a test for cardiovascular efficiency which consisted of a sub-max work load involving a 6-min walking treadmill test. HR scores collected were the average of the 3rd, 4th, 5th, and 6th mins. O_2 consumption was expressed in mls of O_2 consumed per kg of body wt. An intraclass *r* showed the reliability of the HR scores sig (p $\angle$.01). ANOVA showed no sig diff between the HR scores or the O_2 consumption of the high and low anxious Ss. The study concluded that there was no diff between the cardiovascular efficiency of high and low anxious Ss.

674. GOODEN, Keith. The relationship of selected anthropometric measurements of the leg and foot to speed and vertical jump of male collegiate track and field

athletes. M.S. in Physical Education, 1978, 55 p. (W. Bradley)

Ss (N=32) were assigned to 5 groups according to their respective events: short sprinters, long sprinters, middle-distance runners, distance runners, and jumpers. All Ss were exposed to a 1-wk training period before the testing of the vertical jump and 50-yd dash. An ANOVA was used to determine diffs between performance scores of all 5 groups in the vertical jump, 50-yd dash, and selected anthropometric measurements. The Newman-Keuls follow up test was used to make multiple comparisons and a multiple r was used to determine the relationship of the selected anthropometric measurements to vertical jump and the 50-yd dash. There was a high positive relationship between speed in the 50-yd dash and vertical jump. There were no sig relationships between the 12 anthropometric measurements and speed in the 50-yd dash. The short sprinters and jumpers performed sig greater in the vertical jump and 50-yd dash when compared to the other groups. The short sprinters and middle-distance runners performed sig greater in the vertical jump and the 50-yd dash when compared to the distance runners.

675. JOHNSON, Penelope G. An interdisciplinary approach to physical education for elementary level multi-handicapped hearing impaired children...a methodology. M.S. in Physical Education, 1978, 207 p. (D. Phillips and J. Robertson)

The study sought to determine if a single method of instruction could be developed which would facilitate the learning of a specified program of activities for children with a variety of multi-handicaps; if this method could positively affect 3 major areas of concern: social learning, language/cognitive development and motor skill development; and if the sequential order of presentation and practice within the method was effective for learning. Ss were 4 multi-handicapped hearing impaired children in an ELE level PE class. The study required the withdrawal of the method for a period of 5 days while baseline rates of the behavior were recorded by 2 observers. During wks 2, 3, and 4, interventions were instated and behaviors again were recorded. During interventions 2 and 3, the sequence of presentation and practice of interventions were manipulated to determine if the sequential order of the method was adequate for effective learning. The raw data were categorized, computed, graphed, and analyzed through multiple baseline and multiple element designs. The results of the study indicated that the learning of content of the specified PE program was facilitated by the method. A method of PE instruction was developed which facilitated language and hence cognitive development of the Ss. The motor skill development based on correct performance was facilitated when intervention was instated. Social learning was facilitated through the instating of intervention.

676. LELM, Kathy. *A comparison of premarital contraceptive attitudes and practices between nonpregnant females and those with problem pregnancies*. M.S. in Health Education, 1978, 80 p. (J. Neutens)
Ss were 23 never-married college females with problem pregnancies who received abortion counseling at the campus health service and 23 never-married, sexually active nonpregnant college females enrolled in basic curriculum HE courses who were matched to the pregnant group for age and sex. Data pertaining to contraceptive attitudes consisted of Ss' scores on the Premarital Contraceptive Attitude scale developed by Parcel according to the Likert method of summated ratings. t-tests were computed to test for sig diffs between the 2 groups regarding contraceptive attitudes and effectiveness ($p = .05$). A Pearson r was computed to determine the relationship between contraceptive attitude and effectiveness within each group. There were no sig diffs in contraceptive attitudes between the group of Ss with problem pregnancies and the group of sexually active, nonpregnant Ss. However, the pregnant females had practiced sig less effective contraception. Attitudes toward contraception had a moderate effect upon the effectiveness of contraceptive behavior in both groups. There were no sig diffs between the groups in age at 1st intercourse, frequency of intercourse, no. of sexual partners, or degree of dyadic commitment to the sexual partner.

677. MATTERA, Frank. *Attitudes of students toward premarital sexual permissiveness at selected Illinois universities*. M.S. in Health Education, 1977, 107 p. (J. Neutens)
The researcher traveled to each university to administer a questionnaire which sought to measure attitudes toward premarital sexual permissiveness. The following conclusions were based upon the findings obtained as a result of the analysis and interpretation of the data ($p < .01$). The Eastern IL University females were sig more conservative than Chicago State University females in their attitudes toward females engaging in petting activity with little affection and in their attitudes toward females engaging in

coital activity with little affection. The females from EIU and WIU were sig more conservative than CSU females in their attitudes toward males engaging in coital activity with little affection. The Protestant and Roman Catholic males were sig more conservative than the non-religious males in their attitudes toward females engaging in coital activity with little affection.

678. ROBINSON, Jacey K. A comparison between the effect of a formal and an informal leader on the performance of selected collegiate gymnasts. M.S. in Physical Education, 1978, 38 p. (B. Yeager and C. Colvin)
Ss for the study were the advanced female gymnasts during the 1977-78 competitive season at WIU. A sociometric questionnaire was used in selecting the informal leader. Specific guidelines were given to the formal and informal leaders concerning their responsibilities at 10 selected meets, 5 of which were randomly assigned to each leader. The gymnasts' scores on balance beam were recorded for each meet. The Wilcoxen Signed Ranks test was used to analyze the data. The X score of .36 was not sig ($p < .05$). Therefore, the null hypothesis indicating no diff between the effect of the formal and informal leaders on performance level for WIU's advanced women's gymnastics team was accepted.

679. SCHROEDER, Barbara J. Leader behavior of female collegiate coaches as perceived by athletes in relation to team success. M.S. in Physical Education, 1978, 48 p. (K. Pearson and B. Yeager)
The study sought to determine if there was a sig relationship between the leader behavior characteristics of female collegiate coaches as perceived by athletes and the win/loss record of these coaches. Ss (N=26) consisted of female collegiate coaches who coached in AIAW member large and small colleges located within the AIAW Midwest Region 5. Ss selected had coached a winter sport for a minimum of 2 seasons at their present institution. The Leader Behavior Description Questionnaire-Real was the testing instrument used. Consideration and initiating structure were the fundamental dimensions of leader behavior studied. The Pearson product moment formula was used to determine whether a sig r existed between the scores for consideration and for initiating structure and the winning percentages of the Ss. The null hypothesis was accepted. There was no sig relationship between the win/loss records of the female coaches studied and their leader behavior as perceived by their players.

680. SORENSON, Carol A. The relationship between motor performance in selected motor tasks and self-concept of first and sixth grade children. M.S. in Physical Education, 1978, 46 p. (C. Colvin)

Ss were 39 1st grade children and 39 6th grade children from 2 ELE schools in north central IL. The Martinek-Zaichkowsky Self-Concept Scale was used to measure the children's self-concept. The jump-and-reach test, the wall pass test, and the Zigzag run test were selected to measure motor performance. Data were analyzed using the SPSS for regression. Pearson product-movement r's were obtained to determine the relationship between self-concept and performance on each of the 3 selected motor tasks. Results indicated a sig r between self-concept and performance on all 3 motor tasks for the 6th grade girls ($p < .05$). All other r's were nonsig. There appeared to be no sig relationship between self-concept and motor performance of 1st grade children and 6th grade boys, but such a relationship may exist in the case of 6th grade girls.

681. SWENEY, Bambi L. Assessment of body image among blind athletes, sighted athletes and sighted non-athletes. M.S. in Physical Education, 1978. (J. Robertson)

The diffs of 2 facets of body image were assessed: the affective aspect measured by self-concept, and the cognitive aspect measured by selective sensoriperceptual components. Ss consisted of 30 sighted male and female athletes within the age group of 18-25 and participating in wrestling, track and field, or swimming at WIU. Blind athletes (N=23) participating in the National Championships for the Blind were match-paired by sport with the sighted athletes. Also, sighted non-athletes (N=29) from the WIU student body within the 18-25 yr old range composed the non-athletic population. The following parameters consisting of 2 psychologically oriented body image tests and 3 sensoriperceptual tests for balance, kinesthesis, and posture were analyzed with 5 ANOVAs. No sig diff among the 3 groups of blind athletes, sighted athletes, and sighted non-athletes was demonstrated except with the balance study. A post hoc comparison revealed the blind athletic group inferior to the other 2 groups on the balance measure. However, with the exception of the balance study, the group $\bar{X}$s indicated a pattern in conjunction with the hypothesis which was tested to determine each group's rank from high to low on body assessment. The $\bar{X}$s illustrated scores placing the blind athlete between the sighted and the sighted non-athlete with the sighted athlete representing the best results.

682. THEOBALD, David A. *Learning the concept of trajectory and performance in the shot put*. M.S. in Physical Education, 1978, 30 p. (D. Mapes)

The effects of the integration of a selected science concept: trajectory, with a selected physical performance skill: the shot put for distance, upon the performance of JH boys and girls was investigated. Ss (N=54), aged 11-14, were randomly assigned to 1 of 3 groups: group 1 received separate instruction in the science concept and the physical skill, group 2 received integrated instruction in the science concept and the physical skill, and group 3 served as the control. A shot put test and a science concept test were administered to all Ss, at the beginning and the end of the 2-wk study period. A 3 x 2 x 2 factorial ANOVA was employed on the data from the science concept test. A 3 x 2 x 2 factorial ANOVA was employed on the data from the shot put test. The Scheffe Test for multiple comparison of $\bar{X}$s, used to determine whether diffs existed between the $\bar{X}$s of the main effects: sex, group, and age, indicated that there was no statistically sig diff between the $\bar{X}$s of the 2 instructional groups (p ∠ .05). However, sig diffs existed in the $\bar{X}$s of both instructional groups when compared to the $\bar{X}$ of the control group.

683. WEBB, Jimme R. *Status of men's intercollegiate volleyball in the United States*. M.S. in Physical Education, 1978, 33 p. (J. Colgate)

A questionnaire was mailed to 176 college volleyball coaches to determine the status of men's intercollegiate power volleyball in the US in 1976. The data were analyzed by evaluating the questionnaire responses by USVBA region, by showing a change in the measured elements over a 3-season period, and by comparing the results of the questionnaire for club teams to varsity teams. It was concluded that: men's intercollegiate volleyball is increasing in status by the no. of participants, the no. of attending spectators, and by the amount of financial support; the status of men's intercollegiate volleyball differed by the various USVBA regions: highest status was located in Southern CA, the Midwest, and Northeast (USVBA regions 13, 3, 7, 8, and 2), while lowest status was found in the Northeast and Southwest (USVBA regions 9, 6, 15, 5, and 11); varsity teams had higher status than club teams in all areas measured.

684. WELTER, Katherine A. *Complete moments in sport: A phenomenological approach*. M.S. in Physical Education, 1978, 85 p. (K. Pearson)

The study sought to test the hypothesis that the problem of ineffability of complete moments in the sport experience could be overcome through phenomenological description. The phenomenological approach in this study was one referred to by Kleinman as "experiencial description." The writer attempted to express 7 complete moments as she had experienced them in the sports of volleyball, softball, and track. These experiences were either "movement extended" or "movement contained." That is, although the moments were complete in all 7 experiences in that the athlete/writer seemed to be controlled by a force greater than herself, this force did not in all cases enhance her performance. The hypothesis that it is possible to phenomenologically describe complete moments in sport in a way that adequately expresses those moments as the athlete was conscious of them was accepted for 5 descriptions and rejected for 2 descriptions. The writer concluded that ineffability does not seem to be a necessary characteristic of all complete moments in sport. However, the writer was not able in all cases to overcome the problem of ineffability. The writer recommended that other athletes attempt to express their own complete moments in sport by avoiding writing for an "outside" reader and accurately expressing the moment as they experienced it.

WESTERN KENTUCKY UNIVERSITY (T. Crews and W. Kummer)
BOWLING GREEN, KY

685. PROCHAZKA, L. F. Leisure preference of the elderly in Bowling Green nutrition programs. M.S. in Recreation, 1978, 60 p. (W. Kummer)

The objective was to identify the leisure preferences of the elderly in Bowling Green Nutrition Programs. This objective was accomplished through the utilization of a leisure preference test which was designed after the format utilized in the Edwards Personal Preference Test. Major categories were selected and each was composed of 5 leisure opportunity statements. Each category was placed in opposition to every other category 4 times to comprise the test. A test was then designed consisting of 50 questions with 2 statements per question yielding an either-or choice indication of preference. 3 test sites were used with a total of 70 respondents. Results were analyzed for the total group of respondents and were studied by age, sex, and test site. As a group, results indicated that the elderly preferred 3 leisure categories: trips and excursions, nature and outdoor activities, and social REC activities. The 2 least preferred activities were hobbies and clubs, and service activities. With the ease of administration and use, the leisure preference test holds great potential for use in the leisure service field. It provides a sophisticated method of identifying public interest in leisure opportunities and can insure sounder programming to meet public preferences.

WEST VIRGINIA UNIVERSITY (A. C. Ostrow)
MORGANTOWN, WEST VIRGINIA

686. BRAINE, Robert S. The collection, analysis and comparison of human urine between sedentary and conditioned male caucasians as to the variation in sodium, potassium, and chloride composition. Ed.D. in Physical Education, 1978, 64 p. (R. Kurucz)

687. CARMAN, Margueritte K. An investigation to determine the effect of physical conditioning upon fibrinolytic reactivity in normal young men. Ed.D. in Physical Education, 1978, 78 p. (R. Kurucz)

688. CARSON, Linda M. Motor schema formation and retention in young children: A test of Schmidt's Schema Theory. Ed.D. in Physical Education, 1978, 42 p. (R. Wiegand)

689. MARTIN, Thomas R. A comparison of trait anxiety levels on the performance of a complex motor response time task as a function of pre-stimulus delay. Ed.D. in Physical Education, 1977, 76 p. (R. Wiegand)

690. O'TOOLE, Gerald J. A study of the effects of a novel game activity and a sport activity used in conjunction with a structured teaching model on attitudes toward cooperation in an elementary school coeducational setting. Ed.D. in Physical Education, 1978, 123 p. (W. Alsop)

691. RAMSBURG, Irvin D. Anxiety, locus of control, and attributions to success/failure in a competitive tennis situation. Ed.D. in Physical Education, 1978, 147 p. (A. Ostrow)

692. ROBERTS, John. Effects of observing a model and/or providing manual guidance on the acquisition of throwing skill in preschool children. Ed.D. in Physical Education, 1978, 151 p. (A. Ostrow)

693. TOMS, Jack M. An investigation to analyze differences

in leadership characteristics of directors of athletics in the three divisions of the national collegiate athletic association and the national association of intercollegiate athletics. Ed.D. in Physical Education, 1978, 154 p. (W. Alsop)

694. WHELAN, Michael B. Physical fitness of Dublin sixteen year old schoolboys compared with Americans of similar sex and age. M.S. in Physical Education, 1978, 162 p. (R. Kurucz)

695. ZIEGLER, Susan G. The effects of factual feedback and factual feedback with social reinforcement on a volleyball coach's behavior. Ed.D. in Physical Education, 1978, 175 p. (A. Ostrow)

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*American Sociological Review
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*Archives of Environmental Health
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*Archives of Physical Medicine and Rehabilitation
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*Canadian Journal of Public Health
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*Danish Medical Bulletin
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*Ergonomics
*European Journal of Applied Physiology and Occupational Physiology
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*Federation Proceedings
Genetic Psychology Monographs
Geriatrics

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*Periodicals marked with an asterisk have research reports listed in Part II--Bibliography of this issue of Completed Research.

*Growth
*Health Education
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